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THE

WEEKLY WEATHER REPORT

OF THE

METEOROLOGICAL OFFICE

FOR THE YEAR

1890

(VOL. VII.—THIRD SERIES)

CONTAINING

SYNOPTIC CHARTS,

AND

DESCRIPTIVE SUMMARIES OF THE WEATHER FOR EACH DAY;

ALSO

TABULAR SUMMARIES OF TEMPERATURE, RAINFALL, AND BRIGHT SUNSHINE, FOR EACH WEEK,

WITH MONTHLY SUPPLEMENTS AND FOUR APPENDICES.

Published by the Authority of the Meteorological Council.

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1891.

Price One Shilling.

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ERRATA.

In Monthly Summary for October, p. xxxix, Rainfall Values for Parsonstown, *for* 2·64 | 0·67 | 31st, *read* 2·20 | 0·65 | 6th.
In Map 4, Plate X, the value entered to this Station should be 2·20.

METEOROLOGICAL OFFICE Marine Dept.

PREFACE.

In the Weekly Weather Report for 1890 there have been no additions to the Tables or Charts, but the latter have been much improved by being lithographed in two colours, the outline and other permanent parts being printed in blue, while the information on them is given in black. They cover the same area as those for last year, embracing nearly the whole of Europe and the greater part of the Mediterranean. The general arrangement of the daily Remarks has not been altered, but the Tabular matter is now given on the first and second instead of on the first and sixth pages of each Report. The size of the Report therefore is still six pages. The Monthly Summary of the observations made at the stations included in the Daily and Weekly Weather Reports again appears as a Supplement.

The general arrangement is as follows:—

LIST OF DISTRICTS.

For the purposes of this Report the United Kingdom is divided into eleven Districts, which are shown on the accompanying map, distinguished by the numbers 0 to 10. The positions of the stations supplying information are marked on the map by black dots, and their names are given in the following list, arranged under the districts to which they belong:—

METEOROLOGICAL DISTRICTS.

0. SCOTLAND, N.—Sumburgh Head, Stornoway, Wick, Lairg, Glencarron, Fort Augustus.

1. SCOTLAND, E.—Nairn, Aberdeen, Braemar, Ochtertyre, Leith, Marchmont.

2. ENGLAND, N.E.—Alnwick Castle, Durham, Shields, Scarborough, York, Spurn Head.

3. ENGLAND, E.—Hillington, Yarmouth, Geldeston, Cambridge, Rothamsted, Ingatestone.

4. MIDLAND COUNTIES.—Bawtry, Loughborough, Cheadle, Churchstoke, Hereford, Cirencester, Oxford.

5. ENGLAND, S.—London, Strathfield Turgiss, Dungeness, Hastings (St. Leonard's), Southampton, Hurst Castle, Stowell.

6. SCOTLAND, W.—Laudale (Loch Sunart), Fort William, Glasgow, Ardrossan, Glenlee, Douglas (Isle of Man).

7. ENGLAND, N.W.—Newton Reigny (Penrith), Stonyhurst, Blackpool, Manchester, Liverpool Observatory (Bidston), Llandudno, Holyhead.

8. ENGLAND, S.W.—Llandovery, Pembroke, Arlington (N. Devon), Cullompton, Falmouth, Plymouth, Prawle Point.

9. IRELAND, N.—Malin Head, Londonderry, Mullaghmore, Belmullet, Markree Castle, Brookeborough, Armagh, Donaghadee, Edgeworthstown.

10. IRELAND, S.—Dublin, Parsonstown, Kilkenny, Waterford, Roche's Point, Valencia, Killarney, Foynes.

Besides these stations there are two in the Channel Islands, viz., Scilly (St. Mary's), and Jersey (St. Aubin's), which cannot be conveniently placed in any of the Districts.

SUMMARY.

The Summary on the first page of each Report gives for each week and District the absolute *maximum* and *minimum*, the averages of both the daily extremes, the daily mean, and its difference from the average of the corresponding period, as derived from observations of the 20 years 1861–80 together with the values for "Accumulated" temperature above and below 42° F.

TEMPERATURE.

Daily Mean Temperature.

The daily mean Temperature shown in the Tables is calculated from the mean between the daily maxima and minima, due regard being had for the varying relation found to subsist, from month to month, between the true mean temperature of the day derived from 24 hourly observations, and the means of the daily maxima and minima for a series of years, as recorded at Greenwich and at the self-registering Observatories of the Meteorological Council.

The approximate Mean Daily Temperature for any week is found by multiplying the *difference* between the means of the seven observed maxima and minima by the proper coefficient for the month, as shown in the following Table, and adding the product to the observed minimum:—

Months.	Coefficient.
January. December.	0·520
February. November.	0·500
March. October.	0·485
April. September.	0·476
May. August.	0·470
June. July.	0·465

Example:

The mean maximum temperature for a week in December being	45°·1
The mean minimum	39°·3
The difference is	8°·8

This difference 8°·8 × ·520 (the coefficient for December) = 4°·6.

This product when added to the mean minimum, 39°·3, gives 43°·9, the required mean daily temperature of the week.

Accumulated Temperature.

The Tables of Accumulated Temperature are designed to give persons engaged in agriculture better means of estimating the manner in which vegetation is affected by temperature than that afforded by the more usual methods of treating the readings of the thermometer. They show for each week, and for the whole period from the commencement of the year, the weekly and progressive values, respectively, of the combined amount and duration of the excess or defect of the air temperature, above or below a suitably fixed standard, or *base temperature*. The base adopted is 42° F., as being nearly equivalent to 6° C. This has been considered by Continental writers on these subjects to be the critical value, the temperature above which is mainly effectual in starting and maintaining the growth, and in completing the ripening, of agricultural crops in a European climate. This base is also convenient as being 10° F. above the freezing point on the Fahrenheit scale.

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The Accumulated Temperature is expressed in "Day-degrees"; a Day-degree signifying 1° F. of excess or defect of temperature above or below 42°F., continued for 24 hours; or any other number of degrees for an inversely proportional number of hours.

When the temperature during any period remains either wholly above or below the base temperature, the difference between the base and the mean temperature gives the correct accumulated temperature. In other cases this difference gives an approximate value for the accumulated temperature, which does not depart greatly from the truth, the deviation depending on the greater or less extent of the variations of the temperature above or below the base. Further, since the mean between the maximum and minimum of any day is nearly equal to the mean temperature of the day, the difference of the mean of the maximum and minimum from the base will also give, directly, an approximation to the accumulated temperature for the day.

The following rules, however, supply a still closer approximation to the true values sought, and they have been adopted for the preparation of the Tables in this Report. They may be applied to any other base temperature as well as to 42° F., with the slight modification of the numerical coefficients mentioned below.

RULES for computing, for a WEEKLY PERIOD, from the observed MAXIMA and MINIMA, the ACCUMULATED TEMPERATURE above or below 42° F.

1. Obtain the mean temperature, from the means of the seven observed maxima and minima, in the manner already described for daily values.

2. In obtaining the accumulated temperature four cases may occur, to which the following rules will apply:—

Conditions of Temperature.	To obtain the daily Accumulated Temperature.	
	Above 42° F.	Below 42° F.
If the minimum is *above* 42° F. or *equal* to 42° F. -	Subtract 42° F. from the mean.	There is none.
If the minimum is *below* 42° F., but the mean for the day is *above* 42° F.	From the difference between the mean for the day and the minimum deduct the accumulated temperature below 42° F., calculated as stated in the next column.	The required quantity is the excess of 42° F. over the minimum, multiplied by the coefficient 0·4.
If the mean for the day is *below* 42° F., but the maximum is *above* 42° F.	The required quantity is the excess of the maximum over 42° F., multiplied by the co-efficient 0·4.	From the difference between the mean for the day and the minimum deduct the accumulated temperature above 42° F., calculated as stated in the preceding column.
If the maximum is *below* 42° F., or *equal* to 42° F. -	There is none.	Subtract the mean from 42° F.

In each of the above cases the result will be the average daily value, and must be multiplied by 7 in order to obtain the value for the whole week.

The coefficient varies with the duration of the period, and also with the base temperature.

The coefficient given above, in Rules 2 and 3, is for a weekly period, and for the base temperature 42° F. The following are its values for other base temperatures,—for 32° F., 0·4; for 52° F., 0·33; for 62° F., 0·25.

A full explanation of the principles on which these rules are based will be found in Appendix II. to the Quarterly Weather Report for 1878.

RAINFALL.

The Summary gives for each week and each District the number of rainy days, and the total fall of rain, as well as the progressive values reckoned from the commencement of the year, and the difference between these amounts and the means for the corresponding week in the 20 years 1866–85.

BRIGHT SUNSHINE.

The Summary gives for each week and each District the numbers of hours of sunshine recorded, and the percentage of that time to the whole time during which the sun is above the horizon; also the progressive values reckoned from the commencement of the year, together with the difference between them and the mean for the corresponding period in the five years 1881 to 1885.

SUPPLEMENT AND APPENDICES.

Supplement.—Consists of twelve Monthly Summaries of the results of the Observations made at the Stations included in the Daily and Weekly Weather Reports. Each Summary is illustrated by a lithographed plate.

Appendix I.—This contains (1) Summaries for each Quarter and for the whole year, of the Temperature and Rainfall records for each District, from 1866 to 1890, and (2) Tables giving for each district the monthly values for Rainfall, Accumulated Temperature (above and below 42° F.), and Bright Sunshine, as well as the progressive values for each from the commencement of the year, in continuation of the values given in Appendix I. for last year.

Appendix II. gives for year 1890, and for each District, the weekly and progressive values for Rainy days, Amount of Rainfall, Accumulated Temperature (above and below 42° F.), and Bright Sunshine, in continuation of the values for the years 1878–89 printed in Appendix II. to the Weekly Weather Report for last year.

Appendix III. gives for each District, during the twelve years 1878–90, the mean aggregate values from the beginning of the year to the end of each week in the year for the following elements: Days of Rain, Amount of Rainfall, and Accumulated Heat (above and below 42° F.); also for the ten years 1881–90 the corresponding values for Bright Sunshine (both the Number of Hours recorded, and the per-centages of possible duration). These are in continuation of the values published in Appendix III. of the Report for last year.

Appendix IV. gives for each District—for the thirteen years 1878–90—the Mean Temperature of the Air for each Week in the year. This Appendix is in continuation of the values given in Appendix IV. for last year.

Tables showing for each degree of Latitude from 49° N. to 58° N., and for each Weekly and Monthly period, the total numbers of hours during which the Sun is above the Horizon, together with their Reciprocals, are given in the Preface to Vol. I., Second Series.

TABLE SHOWING THE REPORTS RECEIVED TOO LATE FOR INSERTION IN THEIR PROPER PLACES.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Per-centage of possible duration.
				Of Highest each day.	Of Lowest each day.	For whole of the day.		Above 42° F.	Below 42° F.					
Week ending—		°	°	°	°	°	°				Inches.	Inches.		
December 20th, 1890	York	—	—	—	—	—	—	—	—	—	—	—	0	0
January 3rd, 1891	Glencarron	42	25	36·8	30·4	33·7	− 3·5	0	58	3	0·21	−2·04	*	*

The values for the earlier weeks have already appeared on the third page of the different weekly reports.

THE following is a LIST of the OBSERVERS who have furnished Information voluntarily for Publication in the WEEKLY WEATHER REPORT, 1890, together with the NAMES of their STATIONS and their ALTITUDE above the MEAN SEA LEVEL :—

Names of Stations.	Altitude above Mean Sea Level.	Names of Observers.	Remarks.
	Feet.		
Alnwick Castle	210	Lieut.-Col. Holland, for the Duke of Northumberland, K.G.	
Arlington (North Devon).	613	J. Carter, for Lady Chichester.	
Armagh	207	Staff of Observatory.	
Bawtry (Hesley Hall).	65	B. J. Whitaker, J.P., F. R. Met. Soc.	
Blackpool ℳ	31	J. Wolstenholm.	
Braemar ☆	1,114	J. A. Aitken, J.P.	
Brookeborough	279	Mr. Ferguson, for Sir V. Brooke, Bt., F.L.S.	
Cheadle ℳ	646	J. C. Philips.	
Churchstoke ℳ	549	P. Wright, F.C.S., F. R. Met. Soc.	
Cirencester	446	The Royal Agricultural College.	
Cullompton ℳ	202	J. Turner, F. R. Met. Soc.	
Douglas, Isle of Man.	137	A. W. Moore, M.A., J.P.	
Dublin	51	J. W. Moore, M.D., F. R. Met. Soc.	
Durham	335	H. J. Carpenter.	
Edgeworthstown	265	J. M. Wilson, J.P.	
Edinburgh	?	W. M. Mossman	Sunshine only.
Falmouth	210	Staff of Observatory.	
Fort Augustus ☆	75	Rev. E. G. Cody.	
Fort William ☆	37	Angus Rankin	Commenced in August.
Foynes	108	W. Ward, for Lord Monteagle, K.P.	
Geldeston	37	E. T. Dawson, F. R. Met. Soc.	
Glasgow	184	Staff of Observatory.	
Glencarron ☆	504	D. D. Munro.	
Glenlee ☆	230	G. Maxwell and W. Melville.	
Hastings	116	H. Colborne, M.R.C.S.	
Hereford ℳ	274	T. A. Chapman, M.D.	
Hillington ℳ	88	Rev. H. E. B. Ffolkes, M.A., F. R. Met. Soc.	

Names of Stations.	Altitude above Mean Sea Level.	Names of Observers.	Remarks.
	Feet.		
Ingatestone	240	L. J. Petre, F. R. Met. Soc.	Return ceased at end of July.
Kilkenny	212	H. Carlton, for the Marquis of Ormonde, K.P.	
Killarney	110	The Ven. Archdeacon Wynne, F. R. Met. Soc.	
Lairg ☆	458 / 335	T. Young (Ground officer)	Altitude changed on 19 July 1890.
Laudale	14	A. Fletcher, for T. G. H. Newton, F. R. Met. Soc.	
Llandovery	217	J. Watkins, F. R. Met. Soc.	
Llandudno ℳ	79	J. Nicol, M.D., F. R. Met. Soc.	
Londonderry	93	J. Conroy, F. R. Met. Soc.	
Marchmont ☆	500	P Loney.	
Markree Castle	131	A. Marth, F.R.A.S., for Col. Cooper. F.R.A.S.	
Newton Reigny	578	T. G. Benn, F. R. Met. Soc.	
Ochertyre ☆	333	G. Croucher.	
Oswaldkirk	?	R. Thompson	Sunshine only.
Plymouth	125	J. Merrifield, LL.D., F.R.A.S.	
Prestwich	294	T. R. H. Clunn, M.D., F. R. Met. Soc.	
Rothamsted	368	Sir J. B. Lawes, Bart., LL.D., F.R.S., J. H. Gilbert, Ph. D., F.R.S., T. Wilson, F. R. Met. Soc.	
Scarborough ℳ	157	W. Robinson.	
Southampton	74	The Ordnance Survey Office.	
Stonyhurst	330	Staff of Observatory.	
Stowell ℳ	376	Rev. H. J. Poole.	
Strathfield Turgiss ℳ	195	Rev. C. H. Griffith, M.A.	
Thurcaston	?	Rev. T. A. Preston, M.A., F. R. Met. Soc.	Sunshine only.
Waterford	104	C. Percival Bolton, J.P.	
Westgate on-Sea	?	J. Norman Lockyer, F.R.S.	Sunshine only.
Worksop	?	H. Mellish, J.P.	Sunshine only.

Stations marked "ℳ" report through the Royal Meteorological Society; those marked "☆" through the Scottish Meteorological Society.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY,
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH;
AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 1.] *Third Series.* WEEK ENDING SATURDAY, 4TH JANUARY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Station from which reports are received, are shown on the last page of this number, TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean* values employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 2.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29, 1889. Above 42°	Difference from Mean.	Below 40°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	52	25	46·2	36·6	41·6	3 above.	12	+ 7	23	−12	12	+ 7	23	−10
	1. SCOTLAND, EAST	53	22	43·7	32·2	38·2	1 above.	5	− 1	37	− 6	5	+ 1	37	− 4
	2. ENGLAND, N.E.	48	20	38·8	28·0	33·6	5 below.	0	− 6	59	+19	0	− 7	59	+30
	3. ENGLAND, EAST	46	17	36·2	25·0	30·8	7 below.	0	− 7	78	+35	0	−10	78	+48
	4. MIDLAND COUNTIES	49	15	38·5	23·8	31·5	7 below.	0	− 9	74	+31	0	−12	74	+45
	5. ENGLAND, SOUTH	52	20	41·0	28·8	34·6	5 below.	0	−11	52	+17	0	−13	52	+34
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	50	25	44·5	36·0	40·4	1 above.	7	− 2	24	−10	7	− 2	24	− 3
	7. ENGLAND, N.W.	51	21	41·8	31·0	36·7	3 below.	0	− 9	37	+ 4	0	−11	37	+14
	8. ENGLAND, S.W.	52	20	44·0	31·7	38·1	4 below.	6	−11	39	+19	6	−14	39	+29
	9. IRELAND, NORTH	51	27	46·0	37·3	41·8	1 above.	11	− 1	20	−10	11	− 4	20	+ 1
	10. IRELAND, SOUTH	53	29	48·5	38·4	43·7	2 above.	27	+ 8	10	−13	27	+ 4	10	− 1
	— CHANNEL ISLANDS	53	32	45·4	37·2	41·4	3 below.	10	−12	20	+10	10	−17	20	+15

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 2.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	5	4 less.	5	0	0.5	— 0·4	3	6	3	— 2	6	− 6
	1. SCOTLAND, EAST	3	5	2 less.	3	0	0·5	— 0·2	3	7	3	— 8	7	−17
	2. ENGLAND, N.E.	3	2	4 less.	3	— 0	0·2	— 0·4	7	14	7	0	14	+ 1
	3. ENGLAND, EAST	3	3	2 less.	3	— 1	0·3	— 0·2	10	20	10	0	20	+ 2
	4. MIDLAND COUNTIES	3	2	4 less.	3	— 1	0·2	— 0·4	8	14	8	− 1	14	− 3
	5. ENGLAND, SOUTH	2	3	4 less.	2	— 2	0·3	— 0·4	8	14	8	— 2	14	— 3
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	5	15	1 less.	5	+ 1	1·5	— 0·1	7	13	7	+ 1	13	+ 1
	7. ENGLAND, N.W.	4	7	1 less.	4	0	0·7	— 0·1	5	11	5	— 3	11	—13
	8. ENGLAND, S.W.	3	6	5 less.	3	— 2	0·6	— 0·5	13	23	13	+ 1	23	+ 1
	9. IRELAND, NORTH	5	7	0 (average.)	5	0	0·7	0·0	13	26	13	+ 2	26	+ 5
	10. IRELAND, SOUTH	5	11	2 more.	5	0	1·1	+ 0·3	10	20	10	— 4	20	— 7
	— CHANNEL ISLANDS	4	5	4 less.	4	— 1	0·5	— 0·4	16	28	16	+ 2	28	+ 3

General Remarks.

Weather has been cloudy or dull generally in all parts of the Kingdom, over the greater part of England much fog or mist has prevailed. In Ireland and Scotland rain has fallen at rather frequent intervals, but the amounts were in most cases slight.

Temperature has again been above the mean over Ireland and Scotland, but over England it has continued below; in "England, N.E." and "England S." a deficit of 5° is shown, while in the "Midland Counties" and "England E." there has been a deficit of 7°. The highest of the maxima, which were recorded on the 4th, varied from 46° in "England E." to 52° or 53° in most other districts. During the greater part of the period the daily maxima at many of the English stations were very little above the freezing point. At Bawtry on the 3rd the thermometer did not rise above 26°. The lowest of the minima were registered during the earlier days of the week, and ranged from 15° in the "Midland Counties" and 17° in "England E." to between 20° and 21° in the other English districts; in Scotland they varied from 22° to 25°, and over Ireland from 27° to 29°.

Rainfall has been rather more than the mean in "Ireland S." and about equal to it in "Ireland N.," but in all parts of Great Britain it has been less than the normal.

Bright Sunshine has again been very little prevalent, the percentage of the possible amount of duration having ranged from 6 in "Scotland N." and 7 in "Scotland E." to 23 in "England S.W." to 26 in "Ireland N." and to 28 in the "Channel Islands."

Barometer and Wind.—During the earlier part of the period the barometer continued rather high over the United Kingdom, while some depressions skirted our extreme western coasts. As the week progressed, however, the mercury fell very generally, and by the end of the week a "V" shaped secondary system was advancing over us from the westward. Moderate Southerly to South-Westerly winds were mostly prevalent in the west and north, but in the east and south breezes from the South-Eastward or Eastward were experienced. At the close of the week, however, the Southerly wind had extended to all parts of the Kingdom.

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III. – DATA from which the SUMMARY on page 1 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	48	34	46·6	40·3	43·6	+3·7	18	5	5	0·72	—0·19	*	*
	Stornoway	49	34	47·4	39·9	43·8	+4·6	21	6	6	0·39	—0·32	2·9	6
	Wick	48	25	45·9	35·3	40·8	+2·1	11	28	5	0·30	—0·29	*	*
	Lairg ℌ	52	25	45·1	33·4	39·5	+2·3	9	34	3	0·13	—0·74	*	*
	Glencarron ℌ										†			
	Fort Augustus ℌ	49	28	45·9	34·1	40·2	+2·0	11	32	4	0·36†	?	*	*
1. SCOTLAND, E.	Nairn	53	27	47·0	34·4	41·0	+3·3	14	32	3	0·11	—0·37	*	*
	Aberdeen	48	28	43·9	32·6	38·5	+1·1	5	36	3	0·41	—0·22	3·9	8
	Braemar ℌ	46	23	42·1	30·8	36·7	+1·7	0	41	1	0·58	—0·12	0·0‡	0‡
	Ochtertyre ℌ	46	26	42·3	30·7	36·7	—0·3	1	41	3	1·08	+0·06	*	*
	Leith	50	31	45·9	34·7	40·5	+2·8	11	30	3	0·30	—0·15	*	*
	Marchmont ℌ	45	22	40·7	30·1	35·6	—0·1	0	45	4	0·43	—0·26	6·0	13
2. ENGLAND, N.E.	Alnwick Castle	43	23	40·0	30·3	35·4	—2·3	0	46	3	0·20	—0·41	*	*
	Durham	43	20	38·9	27·2	33·2	—4·3	0	61	2	0·26	—0·34	8·3	17
	Shields	46	22	40·7	25·4	35·3	—3·3	0	47	4	0·35	—0·16	*	*
	Scarborough ℌ	42	22	37·4	27·1	32·5	—5·4	0	67	4	0·10	—0·45	5·0‡	10‡
	York	48	22	37·3	26·3	32·0	—6·1	0	70	3	0·10	—0·39	?	?
	Spurn Head	44	25	38·3	27·7	33·2	—5·5	0	62	4	0·05	?	*	*
3. ENGLAND, E.	Hillington ℌ	42	19	34·0	24·8	29·6	—7·6	0	87	3	0·38	—0·13	8·2	16
	Yarmouth	44	26	36·1	28·1	32·3	—6·3	0	68	2	0·06	—0·52	*	*
	Geldeston	44	19	36·9	25·4	31·4	—7·1	0	74	3	0·14	—0·30	13·4	25
	Cambridge	46	18	36·7	22·1	29·7	—8·3	0	86	3	0·27	—0·13	9·6	18
	Rothamsted	45	17	35·8	24·1	30·2	—7·3	0	83	3	0·50	+0·10	*	*
	Ingatestone	46	20	37·6	25·2	31·7	—6·6	0	72	4	0·25	—0·17	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	43	21	35·7	25·9	31·0	—7·6	0	77	2	0·03	—0·46	4·9‡	9‡
	Loughborough	48	20	37·1	22·7	30·2	—7·5	0	83	3	0·11	—0·39	4·7‡	9‡
	Cheadle ℌ	44	18	37·8	25·6	31·9	—5·3	0	71	3	0·16	—0·52	*	*
	Churchstoke ℌ	45	18	40·1	25·5	33·1	—5·1	0	62	2	0·44	—0·24	18·4	35
	Hereford ℌ	49	21	38·4	24·7	31·8	—6·7	0	71	4	0·39	—0·20	*	*
	Cirencester	51	15	43·3	19·4	31·8	—6·5	4	83	2	0·21	—0·50	6·2	11
	Oxford	47	19	37·4	23·0	30·5	—8·4	0	81	3	0·16	—0·35	3·5	6
5. ENGLAND, S.	London	52	24	39·0	27·3	33·4	—5·6	0	60	3	0·27	—0·22	0·2‡	0‡
	Strathfield Turgiss ℌ	49	20	37·3	24·6	31·2	—7·5	0	76	2	0·29	—0·26	*	*
	Dungeness	47	21	40·6	28·7	34·9	—5·8	0	50	1	0·12	—0·56	*	*
	Hastings (St. Leonard's)	48	27	40·5	31·0	35·9	—4·3	0	43	3	0·20	—0·48	1·5	21
	Southampton	49	27	40·1	30·4	35·4	—3·8	0	46	2	0·52	—0·23	13·5	25
	Hurst Castle	50	28	43·1	32·7	38·1	—2·9	3	35	3	0·12	—0·54	*	*
	Stowell ℌ	50	21	39·4	26·7	33·3	—6·6	0	61	2	0·38	?	6·3‡	11‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	50	34	46·0	37·9	42·1	+2·4	18	11	6	2·63†	+0·53	*	*
	Glasgow	48	30	43.1	35·4	39·4	+0·9	3	25	4	0·78	—0·22	5·0	10
	Ardrossan	49	27	46·0	36·6	41·5	+2·3	11	23	5	0·89	—0·09	*	*
	Glenlee ℌ	46	25	41·7	32·2	37·1	—1·1	0	34	5	2·11	+0·43	*	*
	Douglas (Isle of Man)	47	35	45·6	37·8	41·9	+1·1	10	19	4	1·22	+0·13	8·1	16
7. ENGLAND, N.W.	Newton Reigny	44	26	40·8	29·4	35·3	—2·1	0	47	6	0·57	—0·28	8·9	18
	Stonyhurst	44	21	37·9	27·9	33·1	—5·3	0	62	4	0·54	—0·46	3·1	6
	Blackpool ℌ	49	24	41·2	28·2	35·0	—5·6	0	49	3	0·73	+0·01	4·0	8
	Manchester	46	21	38·7	29·0	34·1	—4·9	0	55	4	0·39	—0·41	*	*
	Liverpool Obsy. (Bidston)	50	23	41·9	28·3	35·4	—4·7	0	46	4	0·61	+0·06	*	*
	Llandudno ℌ	49	32	45·3	36·0	40·8	—·8	9	24	3	0·52	—0·18	?	?
	Holyhead	51	32	47·0	38·4	42·9	—0·1	21	10	6	1·19	+0·36	*	*
8. ENGLAND, S.W.	Llandovery	52	20	42·6	28·0	35·6	—4·4	2	52	3	0·73	—0·51	*	*
	Pembroke	51	32	46·4	39·1	42·9	+0·2	18	8	5	0·79	—0·11	17·2	32
	Arlington (N. Devon)	49	23	43·9	28·4	36·5	—3·9	5	51	2	0·49	—0·71	*	*
	Cullompton ℌ	51	20	39·8	23·9	32·2	—9·0	0	69	3	0·37	—0·43	6·3	11
	Falmouth	49	30	45·3	35·6	40·6	—3·2	9	26	4	0·73	—0·53	15·5	28
	Plymouth	52	26	44·7	31·9	38·6	—4·0	8	39	2	0·88	—0·01	11·5	21
	Prawle Point	50	30	45·6	35·3	40·7	—1·7	10	28	3	0·23	?	*	*
9. IRELAND, N.	Malin Head	48	35	45·4	35·7	42·2	+1·8	15	9	5	0·49	?	*	*
	Londonderry	50	35	45·6	37·3	41·6	+0·4	10	20	5	0·51	—0·39	*	*
	Mullaghmore	51	37	48·0	40·4	44·4	+2·2	24	4	4	0·99	+0·10	*	*
	Belmullet	50	37	48·3	41.9	45·2	+1·0	23	0	5	0·88	?	*	*
	Markree Castle	50	28	?45·1	35·1	40·3 ?	—1·4 ?	9 ?	28	5	0·96	+0·17	11·7	23
	Brookeborough	48	27	45·0	33·8	39·6	—0·4	8	32	5	0·94	?	*	*
	Armagh	49	34	45·5	37·0	41·4	+1·7	10	21	4	0·53	—0·13	14·9	29
	Donaghadee	48	35	46·1	37·6	42·0	+1·1	11	12	5	0·78	+0·14	*	*
	Edgeworthstown	49	28	45·0	33·9	39·7	+0·3	8	32	6	0·58	—0·11	*	*
10. IRELAND, S.	Dublin	51	33	47·0	38·2	42·8	+1·8	22	11	2	0·02	—0·49	9·9	19
	Parsonstown	50	29	47·6	35·3	41·7	+1·7	16	29	4	0·80	+0·11	9·8	19
	Kilkenny	50	31	47·1	36·4	42·0	+2·3	14	16	5	0·66	—0·09	*	*
	Waterford	51	35	48·4	39·9	44·3	+2·6	25	6	6	1·87	+0·85	*	*
	Roche's Point	51	36	49·9	43·1	46·6	+3·4	32	0	6	1·95	+0·76	*	*
	Valencia	53	33	50·6	40·1	45·6	+0·3	33	5	7	1·27	—0·14	11·2	21
	Killarney	51	29	49·3	37·1	43·4	0·0	30	14	6	1·51	?	*	*
	Foynes	52	30	48·1	37·4	43·0	+1·2	26	13	3	0·66	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	37	48·4	40·9	44·8	—1·6	24	3	3	0·66	—0·25	*	*
	Jersey	49	32	42·3	33·4	38·0	—4·8	1	31	5	0·23	—0·57	15·7	28

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

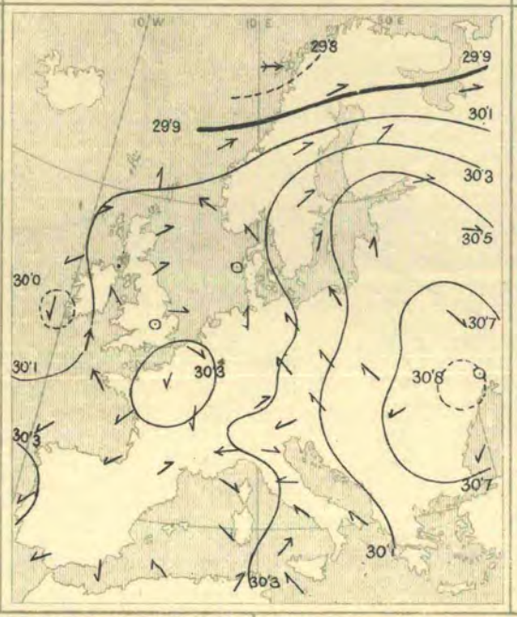
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

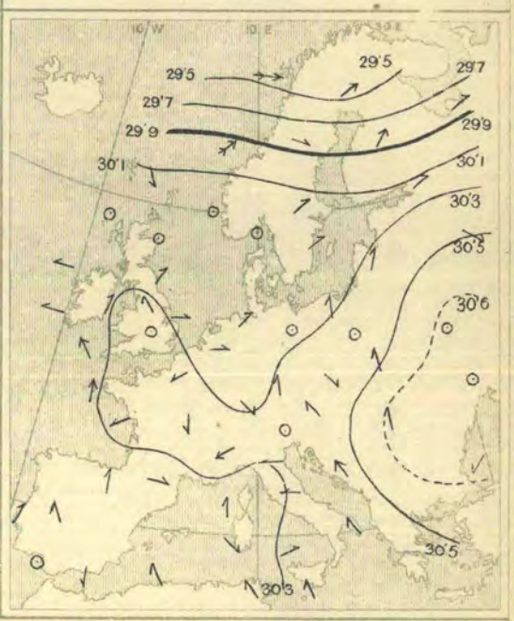
Sunday, 29th December.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather rather unsettled in Ireland (with rain at Roche's Point), fair but foggy over England, and also over the greater part of the Continent, continuing fair in most places all day; densely dark and foggy in London, slight snow and sleet in many parts of our Islands later, and further considerable falls of rain in the south of France and north of Italy.

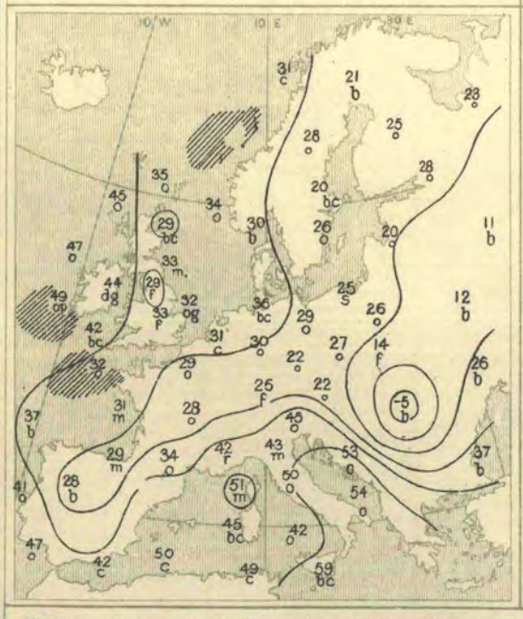
Temperature risen over central and southern Russia and many parts of central Europe, fallen over the United Kingdom. Frost prevalent very generally at inland stations except in Ireland, where the morning readings were all much above 40°; readings over Hungary and southern Russia as low as −1° Faht. to + 8° Faht. Daily maxima low, except over Algeria and the south of Italy, where a marked rise occurred, to upwards of 65° in several places. Frost inclined to break a little at night in London.

Wind Southerly and Easterly at our western stations, Easterly and variable over England; Westerly and South Westerly, strong to a gale, over northern Europe; South-Easterly to Southerly over northern and eastern Germany; and Easterly in the south of France. Westerly wind becoming still stronger over northern Europe later, but Southerly and South-Easterly wind at our western stations and in Hungary tending to die down.

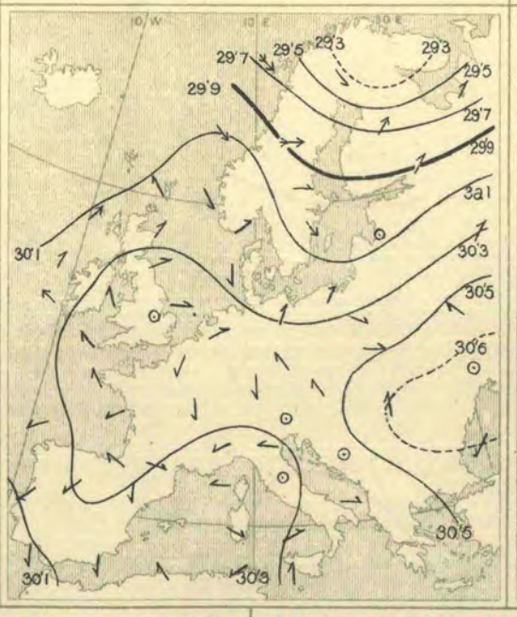
Barometer highest, 30·7 ins. and more, over southern parts of Russia, and exceeding 30·3 ins. in a secondary anticyclone over France; lowest, 29·8 ins. and less, over Lapland; and rather below 30·0 ins. in a small (and dispersing) depression off the south-west of Ireland. Depression over Mediterranean apparently filled up. French anticyclone spreading northwards over England later, but becoming rather complex.

Monday, 30th December.

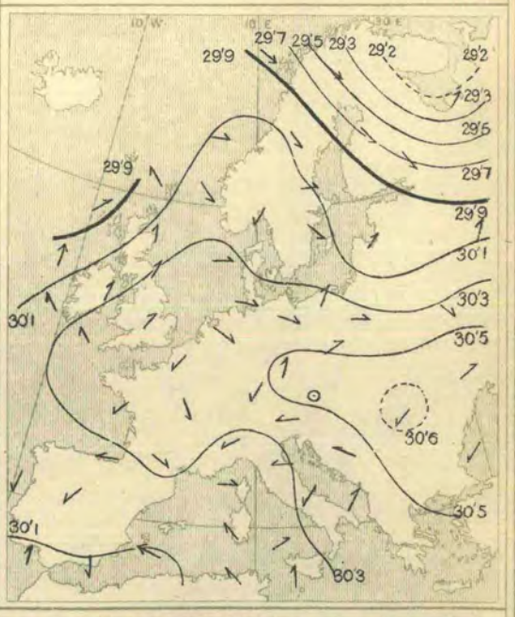
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and mild at our western stations, cold and dull on the Continent, much fog over England, very rough and squally over northern Europe. Densely dark, with high fog in London during day; some rain at our western and northern stations later, and heavy falls again reported in various parts of southern France, Italy, and Algeria.

Temperature risen over England and north of France, frost beginning to break at several stations; still very low (−5° Faht. to + 11°) over Hungary and Russia, and low over central Europe; between 40° and 50° on our western coasts, and exceeding 50° at Malta, Brindisi, and Lesina. Not rising much during day in most places, but maxima of 50° and more recorded on our south-western coasts, and 60° to 70° over Italy and Algeria.

Wind strong to a gale from between South-West and North-West over northern Europe, fresh from the South in Ireland, very light and variable in almost all other parts of the British Islands and Europe, but Easterly on the northern shores of the Mediterranean. The Southerly wind in Ireland spreading to Scotland later, and the gales over northern Europe becoming North-Westerly generally. No other change of importance.

Barometer still highest (30·5 ins. to 30·6 ins.) over south-eastern Europe, but high (30·3 ins. to 30·4 ins.) over central and western Europe also; lowest, 29·4 ins., and less in a depression over Lapland, and below 30·2 ins. both off our north-western coasts and over Sardinia and Corsica. Northern depression moving eastwards to White Sea later, and fresh fall of barometer commencing again in Ireland and Scotland.

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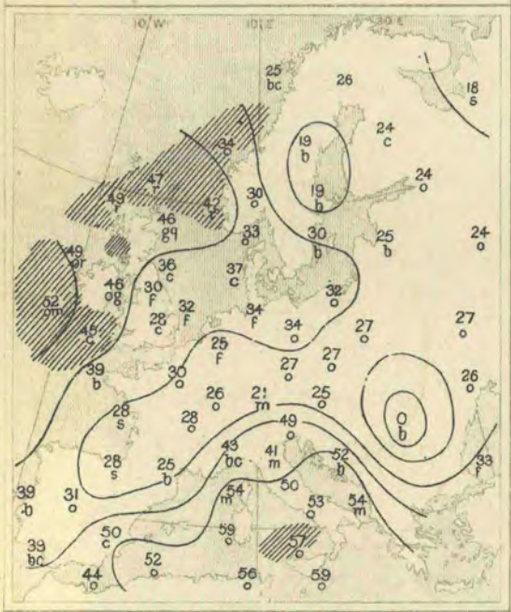
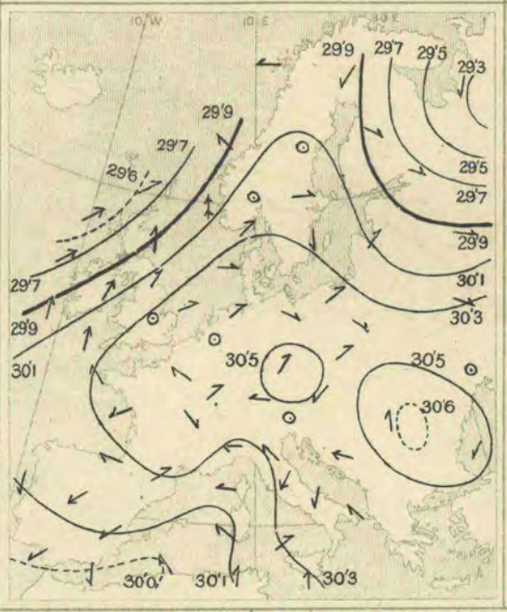
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 31st December.

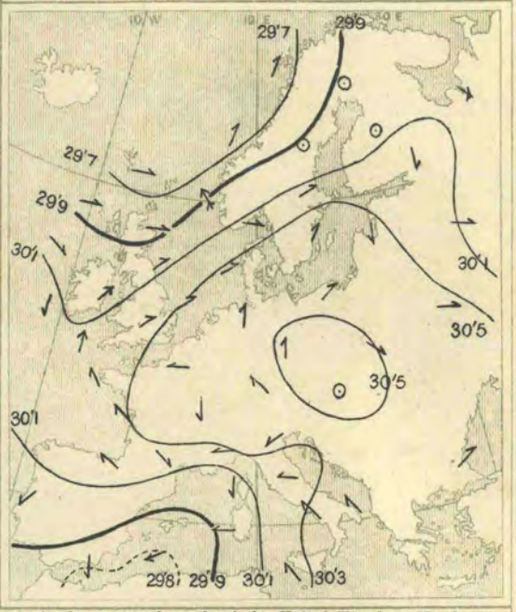
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning unsettled in west and north of our Islands, rainy at some Irish and Scotch stations, in the west of Norway and at Rome—snow at Archangel and in the south-west of France. Fine in the north of Norway, at the Swedish and some Spanish stations, dull or cloudy in most other parts of Europe; dense fogs locally over England and at Constantinople. Rain during day in Ireland, Scotland and Norway, but sky clearing in the west subsequently. Remaining fair but foggy over England. Heavy rain falling on the Mediterranean Coasts, with snow in France.

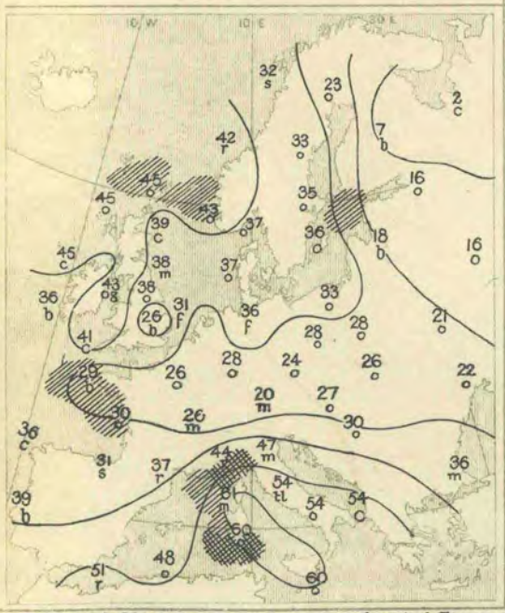
Temperature risen considerably over Scotland, Denmark, central and southern Russia, and at some Mediterranean stations, fallen over England, France, western Germany, and the north of Russia. Readings over 50° at many of our western and northern stations, frost very prevalent in nearly all parts of Europe. Lowest readings ranging from 16° to 20° over Russia, absolute lowest 0° F. at Hermanstadt. Daily maxima exceeding 60° in some parts of Algeria and Italy, and exceeding 50° at one or two Irish and Scotch stations.

Wind Southerly to South-Westerly in the west and north of the United Kingdom, Northerly to North-Westerly in Finland, Westerly over Central Russia, variable over Germany and Austria, North-Easterly or Easterly over France, Spain, the Mediterranean, and Bay of Biscay, South-South-Easterly in Algeria; strong at Scotch and Irish stations and over Algeria, light or moderate in most other places. Wind veering to North-West on our western coasts later and still blowing strongly there; Easterly gales over the south of France.

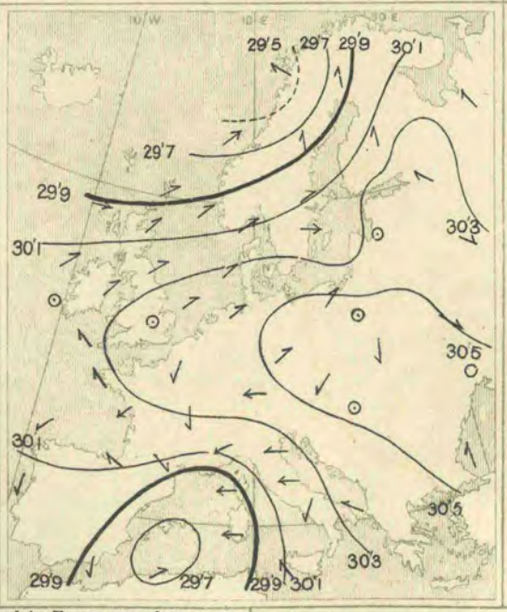
Barometer highest (30·4 ins. to 30·6 ins.) in a long band of high pressure stretching from France across Central Europe to the Black Sea; lowest (29·4 ins. and less) in a depression lying near Archangel, and (29·6 ins. and less) in another disturbance off the Hebrides. A third system of low readings (30·0 ins. and less) shown over Algeria. Later in the day "V" shaped depression advanced over our western districts and the anticyclone over the Continent moved south-eastward, while a new depression appeared between Spain and Africa.

Wednesday, 1st January.

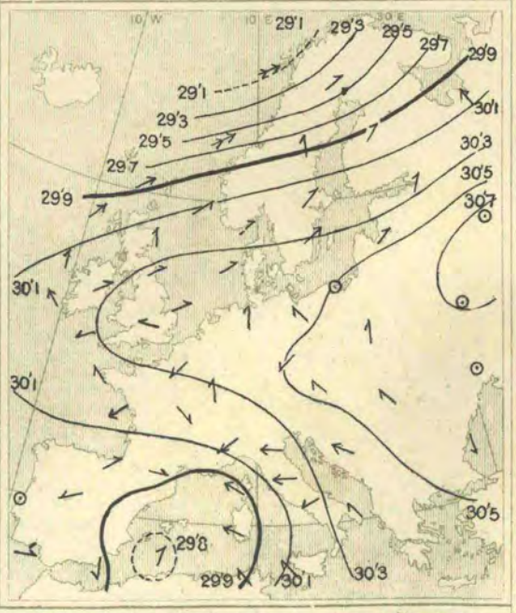
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair, but dull, over south-eastern and central Europe and in France, very foggy over England; still very unsettled and rainy over southern Europe and the Mediterranean, with thunder and lightning at Rome; fine and bright in Portugal, many parts of Ireland, and also over Finland and northern Russia. Rainfall again heavy over the south of France, Italy, and on the Algerian coasts during the day, smaller quantities in Norway and at some of our western stations, fog and haze over England and in several central localities.

Temperature very low in morning over Finland and northern Russia, and below the freezing point over south-eastern Europe, Germany, and central parts of France; very variable over the British Islands, but frost prevalent at inland stations; highest morning values, 60° at Malta, Cagliari, and Sanguinavia, 54° in the south of Italy, and ranging between 40° and 47° on the western coasts of the British Islands and in the west of Norway. Daily maxima 60° to 66° over the south-eastern parts of the Mediterranean and almost touching 50° in Scotland.

Wind moderate South-Westerly and Westerly in the north of our Islands; strong to a gale from South-West over Scandinavia; very variable and light over central Europe and France; Easterly winds, strong to a gale in force, felt at the northern and central stations on the Mediterranean; gale over Scandinavia increasing later; and Southerly winds setting in over Ireland.

Barometer highest (30·5 ins. and more) over south Russia, Hungary and Poland, and exceeding (30·2 ins.) in a broad ridge stretching thence in a westerly direction across Germany, France, England and Ireland; lowest 29·6 ins., and less off the north-west of Norway, 29·7 ins. and less in a depression lying near Algiers. Northern depression growing much larger and deeper later and moving north-eastwards.

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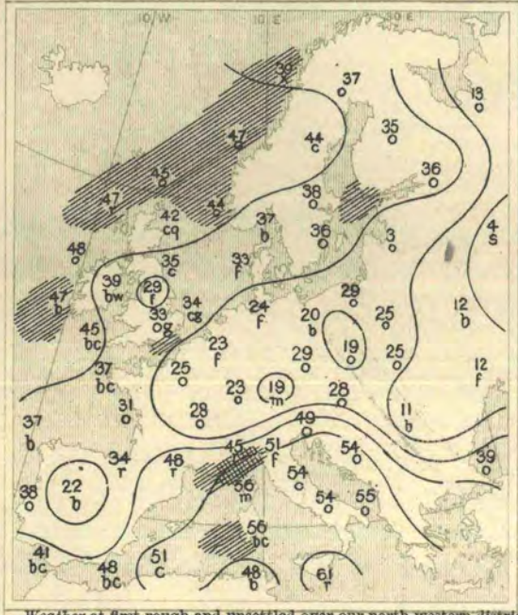
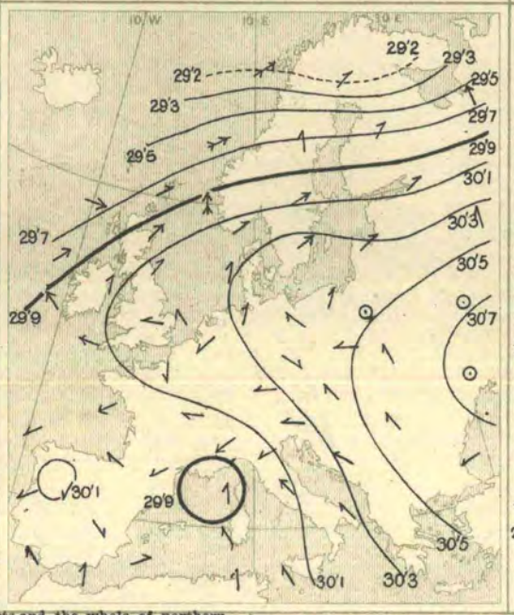
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 2nd January.

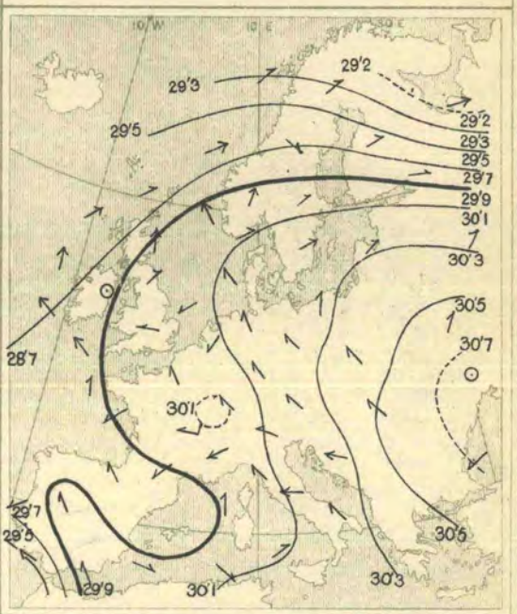
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather at first rough and unsettled over our north-western districts and the whole of northern Europe; raining in the Hebrides and extreme north-west of Norway, as well as over all the southern parts of France (where the falls were heavy) and at Malta. Fine at many Irish and some Scotch stations, as well as over a large portion of Spain, the north-east of Africa, and Little Russia; sky densely overcast elsewhere and fog at several English, German, and Danish stations. Heavy rain in south of France and some parts of Italy during day.

Temperature risen considerably over Sweden, Finland, and northern Russia, slightly over many districts in western Europe and northern Africa; fallen decidedly over central England and south of Russia. Morning readings exceeding 60° at Malta and 50° at the Italian and some other Mediterranean stations; frost prevailing in all other places, excepting the north-western and southern coasts of Europe—severe over Russia and the south of Austria. Lowest readings ranging from 1° Fahr. at Kharkov and 4° at Moscow, to 11° at Hermanstadt and Archangel. Thermometer rising over British Islands later.

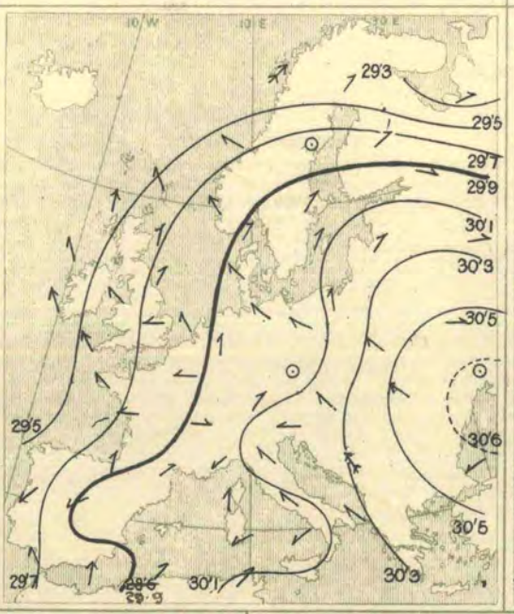
Wind Southerly (South-East to South-West), strong, over our north-west coasts; Southerly to Westerly gales over Scandinavia and Finland; Easterly (North-East to South-East) strong breezes on the northern shores of the Mediterranean; South-Easterly or Easterly, light to moderate, in most other places, variable over France. South-Easterly to Southerly in west of our Islands later and blowing strongly.

Barometer highest (30·5 ins. to 30·7 ins. and more) in a large area over southern Russia and the Black Sea, and ranging from 30·5 ins. to 30·0 ins. in a large ridge stretching thence across central Europe to France and England. Low (29·2 ins. and less) over Lapland and northern Russia, and 29·9 ins. in a small depression lying over the northern portion of the Mediterranean. Barometer rising over northern Europe later, but falling fast in west and over Germany, and slightly over southern Russia.

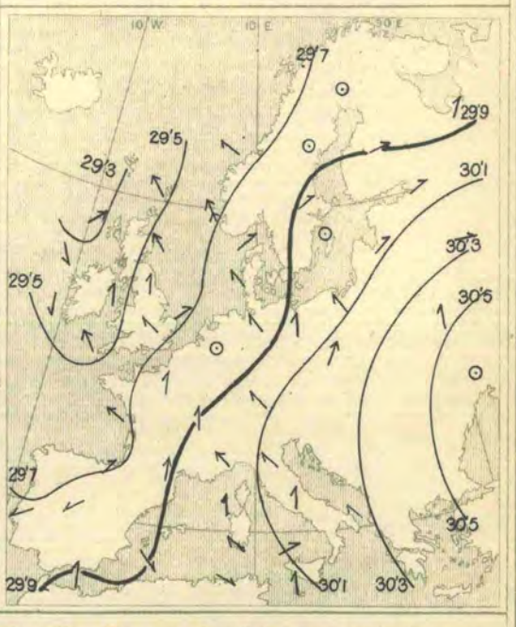
Friday, 3rd January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather very variable in morning; fine at a few places in the north of Europe, the east of France, the Adriatic, and on the southern shores of the Mediterranean; very dull or cloudy in nearly all other places, with fog at many British stations and over central Europe. Rain at one or two stations on the extreme west coasts of Europe and snow at Vienna; rain falling generally over the British Isles and France later.

Temperature risen rapidly in northern Europe and eastern Russia, and to a smaller extent over many other parts of Europe, fallen somewhat in most other localities. Morning readings exceeding 50° at several Algerian, Italian, and other Mediterranean stations, 40° or more on the extreme western coasts of Europe, and above freezing point in Lapland, Finland, and northern Russia; over remainder of Russia, central Europe, and inland England frost still prevalent, the lowest readings being 10° at Hermanstadt, 11° at Kharkov, and 14° at Cracow.

Wind South-Westerly or Westerly in northern Europe—a gale at Bodö; Easterly very light over south-eastern Europe, variable over Italy and on the northern shores of the Mediterranean; South-Easterly light in Austria, and South to South-Easterly, moderate to strong, over the greater part of western Europe and Algeria. Shifting to North-Westward over the western parts of the British Isles later, but remaining Southerly over England.

Barometer fallen decidedly except at the most northern and the most southern stations; highest (30·4 ins. to 30·6 ins. and upwards) over southern Russia and the Black Sea, lowest (29·25 ins. to 29·35 ins.) along the west coast of Ireland, as well as in Lapland and northern Russia. Shallow local disturbances over the Mediterranean. A "V" shaped depression beginning to advance eastward over the British Isles later.

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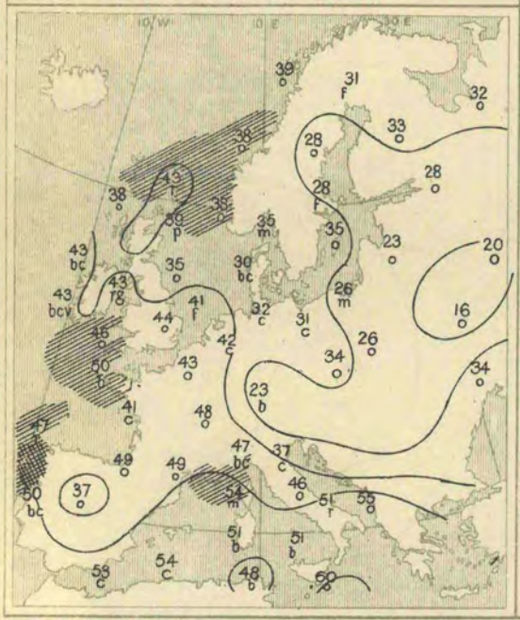
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 4th January.

Temperature and Weather.

8 a.m.

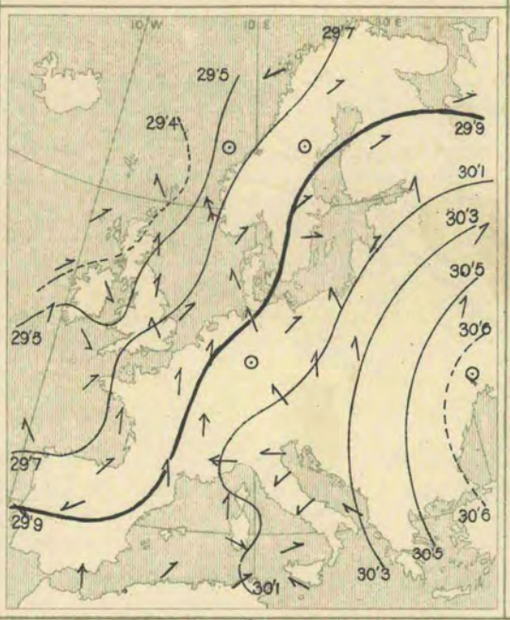


Weather fine in Algeria and at many other stations on the southern coasts of the Mediterranean and in the south of Spain; temporarily fine and bright in Ireland also. Dull or overcast elsewhere, with rain at isolated stations in the British Islands and Spain—fog at Belfort. Becoming rainy, squally, and unsettled in the western parts of the United Kingdom later, and the disturbed weather spreading to France.

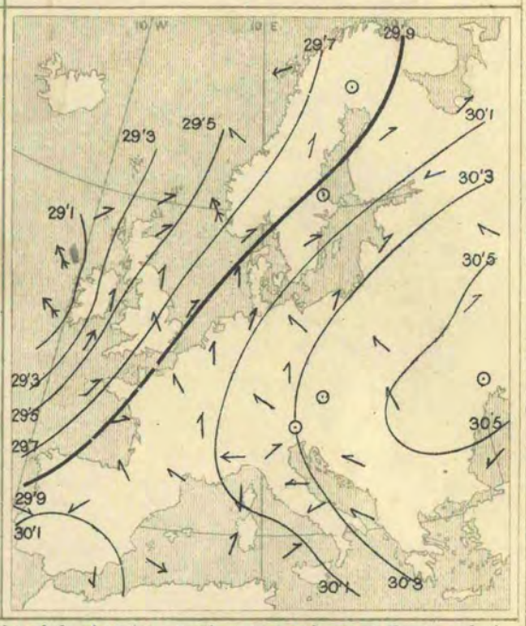
Temperature continuing below the freezing point over Lapland, Russia, Austria, south Germany, and the east of France, lowest morning values being 16° at Kharkov and Kiev, 20° at Moscow, and 29° at Bodö. Rather high, and rising, over the British Islands and the western parts of France and Spain; highest morning values 60° at Malta, 55° at Brindisi, 51° at Palermo and Naples, 50° at Lisbon and Brest, 49° at Biarritz, and 46° at Scilly. Rising to above 50° over all the south-western parts of our Islands later, and approximating 50° in many other western districts.

Barometer and Wind.

8 a.m.



6 p.m.



Wind Southerly over nearly the whole of western, north-western and central Europe, and of little strength; very light and variable over Scotland and Ireland (calm in several places), North-Easterly to Easterly over Italy and the South of France. South-Easterly and Southerly gales setting in over Ireland later, attaining great force, and subsequently spreading up the Channel and to the Scotch stations.

Barometer highest, 30·2 ins. to about 30·6 ins., over the south-eastern parts of Europe, lowest over the Atlantic and British Islands and over the Irish Sea—the lowest of all being 29·4 ins., and less in a shallow depression of irregular form lying over Scotland. Deep new depression approaching Ireland later and moving quickly in a north-easterly direction.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week an important alteration has taken place in the distribution of pressure, and, consequently, in the weather over Europe. The large high-pressure area, which at first covered nearly the whole of the Continent, together with the greater part of our Islands, moved Southwards gradually, and then Eastwards, and low-pressure systems began to appear in the north-west and west. These subsequently became more general, and warm Southerly winds spread all over western Europe, and were rising to a gale in Ireland as the week drew to a close.

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(COPY.)

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 2.] *Third Series.* WEEK ENDING SATURDAY, 11TH JANUARY, 1890. [*Price 6d.* [*Annual subscription, post paid,* £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding periods in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. of this Series.

Temperature of the Air.

DISTRICTS. (See p. 2.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From January 1st, 1890. Above 42°	Difference from Mean.	Below 40°	Difference from Mean.
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts. **0.** SCOTLAND, NORTH	52	27	47·6	38·0	43·0	5 above.	24	+19	11	−25	36	+26	34	−37
1. SCOTLAND, EAST	55	32	48·8	37·4	43·4	6 above.	29	+23	13	−33	34	+24	50	−35
2. ENGLAND, N.E.	56	29	50·8	39·7	45·5	8 above.	34	+29	6	−35	34	+23	65	− 8
3. ENGLAND, EAST	58	33	51·2	40·8	46·2	9 above.	34	+28	3	−42	34	+20	81	− 2
4. MIDLAND COUNTIES	55	31	52·1	40·6	46·6	9 above.	38	+30	4	−41	38	+19	78	− 2
5. ENGLAND, SOUTH	57	34	51·6	43·2	47·6	8 above.	39	+30	0	−36	39	+19	52	−11
Principal Grazing, &c., Districts. **6.** SCOTLAND, WEST	53	36	50·2	41·0	46·0	7 above.	32	+24	3	−32	39	+22	27	−37
7. ENGLAND, N.W.	58	36	51·8	41·8	47·0	7 above.	36	+28	1	−35	36	+19	38	−24
8. ENGLAND, S.W.	55	31	52·2	44·2	48·3	7 above.	44	+29	0	−22	50	+16	39	+ 3
9. IRELAND, NORTH	54	34	50·9	40·2	45·8	5 above.	34	+23	5	−25	45	+18	25	−24
10. IRELAND, SOUTH	57	32	52·8	42·3	47·7	6 above.	40	+21	0	−23	67	+28	10	−26
— CHANNEL ISLANDS	55	44	52·4	46·5	49·6	5 above.	53	+33	0	−13	63	+21	20	+ 1

Rainfall.

DISTRICTS. (See p. 2.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From January 1st, 1890. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
		10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts. **0.** SCOTLAND, NORTH	7	15	4 more.	12	+ 2	2·0	0
1. SCOTLAND, EAST	7	13	6 more.	10	+ 4	1·8	+ 0·5
2. ENGLAND, N.E.	4	4	1 less.	7	0	0·6	− 0·4
3. ENGLAND, EAST	5	4	1 less.	8	0	0·7	− 0·3
4. MIDLAND COUNTIES	6	4	2 less.	9	+ 2	0·6	− 0·6
5. ENGLAND, SOUTH	5	6	1 less.	7	0	0·9	− 0·4
Principal Grazing, &c., Districts. **6.** SCOTLAND, WEST	7	20	3 more.	12	+ 4	3·5	+ 0·3
7. ENGLAND, N.W.	7	10	3 more.	11	+ 4	1·7	+ 0·2
8. ENGLAND, S.W.	7	7	3 less.	10	+ 2	1·3	− 0·3
9. IRELAND, NORTH	7	14	7 more.	12	+ 3	2·1	+ 0·6
10. IRELAND, SOUTH	7	14	5 more.	12	+ 4	2·5	+ 0·6
— CHANNEL ISLANDS	7	7	1 less.	11	+ 2	1·2	− 0·5

Bright Sunshine.

DISTRICTS. (See p. 2.)	For the Week. Hours recorded.	Percentage of possible Duration.	From January 1st, 1890. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts. **0.** SCOTLAND, NORTH	2	5	5	− 7	5	− 8
1. SCOTLAND, EAST	5	10	8	−13	8	−14
2. ENGLAND, N.E.	2	3	6*	− 8	6	− 7
3. ENGLAND, EAST	8	15	18	− 2	17	− 1
4. MIDLAND COUNTIES	7	13	15	− 2	14	− 2
5. ENGLAND, SOUTH	9	17	17	− 1	15	− 2
Principal Grazing, &c., Districts. **6.** SCOTLAND, WEST	3	5	10	− 3	10	− 3
7. ENGLAND, N.W.	3	5	8	− 7	8	− 6†
8. ENGLAND, S.W.	5	9	18	− 5	16	− 5
9. IRELAND, NORTH	9	17	22	+ 4	21	+ 3
10. IRELAND, SOUTH	11	21	21	− 4	20	− 3
— CHANNEL ISLANDS	5	9	21	−10	18	− 9

General Remarks.

Weather has continued cloudy or dull very generally, with frequent falls of rain. In many parts of England, however, some fine, bright intervals were experienced. Soon after the commencement of the week severe thunderstorms occurred in many parts of Ireland and Scotland.

Temperature has been much above the mean in all districts; over Ireland and the greater part of Scotland the excess has been 5° or 6°, and over the western parts of England and Scotland 7°, while over southern, central, eastern, and north-eastern England the excess has been as much as 8° or 9°. The highest of the maxima were registered in most places either on the 6th or 7th, when the thermometer rose to between 52° and 55° over Scotland and to between 54° and 57° in Ireland, while over England they ranged from 55° to 58°. The lowest of the minima, which were recorded either on the 5th or 11th, ranged from 27° in "Scotland N." and 29° in "England N.E." to 36° in "Scotland W." and "England N.W." and to 44° in the "Channel Islands." During the greater part of the week the minima at many of the English stations were but little below 50°.

Rainfall has been rather less than the mean in nearly all the English districts, but considerably more over Ireland and Scotland as well as in "England N.W."

Bright Sunshine has continued very deficient generally, the percentage of the possible amount of duration having ranged from 3 in "England N.E." to 17 in England S." and "Ireland N." and to 21 in the "Channel Islands."

Barometer and Wind.—During this period a series of depressions moved northwards or north-eastwards outside our western and north-western coasts, but towards the end of the week a disturbance passed eastwards over Scotland to the North Sea. Some of the systems were rather deep and caused the wind, which was from between South and South-West very generally, to increase to the force of a gale at times at all our more western and north-western stations.

* This value has been altered owing to the receipt of further information.
† The corresponding value in last week's Report should be "—3."

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III.—DATA from which the SUMMARY on page 7 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	50	33	46·4	41·1	43·9	+4·4	17	3	6	0·86	−0·02	*	*
	Stornoway ℌ	52	32	47·9	39·4	43·8	+4·6	24	7	7	2·33	+1·14	4·0	9
	Wick ℌ	49	30	46·7	37·4	42·2	+3·8	21	13	6	0·31	−0·21	*	*
	Lairg ℌ	51	27	47·3	34·0	40·9	+3·8	15	33	7	1·34	+0·51	*	*
	Glencarron ℌ										†			
	Fort Augustus ℌ	52	33	49·5	38·3	44·1	+7·1	30	10	7	2·67†	?	0·3	1
1. SCOTLAND, E.	Nairn ℌ	54	33	49·4	37·4	43·6	+6·1	31	13	7	1·21	+0·74	*	*
	Aberdeen ℌ	53	33	47·9	39·7	44·0	+6·8	24	6	6	0·92	+0·32	10·1	21
	Braemar ℌ	52	33	46·4	36·1	41·5	+7·6	12	25	7	1·97	+1·28	2·0‡	4‡
	Ochtertyre ℌ	52	33	48·9	37·1	43·2	+6·4	29	14	7	2·15	+1·00	*	*
	Leith ℌ	55	32	51·4	36·6	44·3	+6·8	39	15	7	0·68	+0·23	*	*
	Marchmont ℌ	54	35	48·9	37·7	43·5	+8·0	29	12	5	0·79	+0·13	2·8	6
2. ENGLAND, N.E.	Alnwick Castle	53	37	48·6	40·0	44·5	+7·2	26	6	5	0·50	−0·05	*	*
	Durham	55	37	50·9	40·2	45·8	+8·6	34	5	6	0·59	+0·07	2·4	5
	Shields	56	34	52·3	40·1	46·4	+8·0	39	5	4	0·51	+0·06	*	*
	Scarborough ℳ	54	38	50·8	41·7	46·4	+8·6	32	1	4	0·50	+0·02	1·3‡	2‡
	York	56	34	53·1	39·6	46·6	+8·6	42	7	3	0·33	+0·14	1·4	3
	Spurn Head	52	29	49·1	36·7	43·2	+4·6	31	15	3	0·15	?	*	*
3. ENGLAND, E.	Hillington ℳ	55	35	51·1	41·5	46·5	+9·4	34	1	4	0·29	−0·18	6·4	12
	Yarmouth	52	36	48·6	39·6	44·3	+6·0	26	7	6	0·33	−0·18	*	*
	Geldeston	54	36	50·3	41·5	46·1	+7·9	31	1	3	0·35	−0·05	9·4	17
	Cambridge	58	33	54·0	40·3	47·4	+10·0	45	5	4	0·33	−0·04	8·7	16
	Rothamsted	55	33	51·9	41·7	47·0	+9·8	36	1	6	0·60	−0·01	*	*
	Ingatestone	55	36	51·3	40·3	46·0	+8·0	35	5	4	0·37	−0·03	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	55	? 35	52·3	? 38·7	45·8	?+7·5	? 40	? 9	5	0·30	−0·15	1·1‡	2‡
	Loughborough	56	36	52·6	40·7	46·9	+9·7	40	4	4	0·27	−0·21	9·0‡	17‡
	Cheadle ℳ	53	35	51·3	40·9	46·3	+9·5	35	3	6	0·55	−0·08	*	*
	Churchstoke ℳ	54	36	52·5	40·4	46·7	+8·7	40	4	5	0·28	−0·40	5·2	10
	Hereford ℳ	55	36	52·5	41·3	47·1	+8·8	39	2	6	0·32	−0·28	*	*
	Cirencester	54	31	51·4	40·0	45·9	+7·8	36	6	6	0·48	−0·26	8·4	15
	Oxford	54	37	52·1	42·1	47·3	+8·6	37	0	7	0·35	−0·16	12·5	23
5. ENGLAND, S.	London	57	37	52·6	42·6	47·8	+9·2	41	0	4	0·42	−0·08	10·0‡	18‡
	Strathfield Turgiss ℳ	54	34	52·3	41·6	47·2	+8·9	38	1	6	0·70	+0·12	*	*
	Dungeness	51	38	50·0	44·1	47·2	+7·0	36	0	4	0·43	−0·22	*	*
	Hastings (St. Leonards)	52	39	50·3	43·8	47·2	+7·4	36	0	4	0·34	−0·32	14·6	26
	Southampton	53	38	52·2	43·5	48·0	+9·0	42	0	7	0·92	+0·14	9·1	6
	Hurst Castle	56	38	52·1	44·4	48·4	+7·7	45	0	5	0·67	−0·02	*	*
	Stowell ℳ	53	34	51·6	42·3	47·1	+7·2	36	0	6	0·46	?	3·3‡	6‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	?	36	?	39·5	?	?	?	?	7	3·25†	+1·28	*	*
	Glasgow	53	37	49·6	40·2	45·1	+6·7	29	5	7	1·54	+0·52	3·2	6
	Ardrossan	51	39	49·0	42·6	45·9	+6·7	27	0	6	1·31	+0·31	*	*
	Glenlee ℌ	52	38	50·6	40·1	45·6	+7·6	33	5	7	2·70	+0·91	*	*
	Douglas (Isle of Man)	53	40	51·5	42·6	47·2	+6·6	36	0	6	1·26	+0·14	2·3	4
7. ENGLAND, N.W.	Newton Reigny	51	38	50·5	40·2	45·6	+8·4	33	5	7	2·20	+1·35	0·3	1
	Stonyhurst	53	39	50·9	41·2	46·2	+7·9	33	2	7	1·74	+0·79	4·2	8
	Blackpool ℳ	54	36	50·4	39·9	45·4	+5·0	33	6	7	1·08	+0·38	3·0	6
	Manchester	54	38	52·0	42·1	47·3	+8·6	37	0	6	0·68	−0·10	*	*
	Liverpool Obsy. (Bidston)	56	37	52·9	41·6	47·5	+7·8	40	1	6	0·34	−0·19	*	*
	Llandudno ℳ	58	40	55·0	43·6	49·5	+8·2	53	0	7	0·41	−0·27	2·5	5
	Holyhead	52	42	51·0	44·0	47·6	+4·9	39	0	7	0·85	+0·04	*	*
8. ENGLAND, S.W.	Llandovery	54	32	51·9	41·7	47·0	+7·0	36	1	6	1·10	−0·15	*	*
	Pembroke	52	40	51·1	46·7	49·0	+6·4	49	0	7	0·42	−0·48	7·0	13
	Arlington (N. Devon)	53	36	51·3	41·6	46·6	+6·3	34	1	7	1·18	+0·12	*	*
	Cullompton ℳ	55	31	53·0	41·3	47·4	+6·2	41	2	7	0·47	−0·32	4·3	8
	Falmouth	55	41	53·1	45·6	49·5	+5·9	53	0	7	0·66	−0·63	5·0	9
	Plymouth	55	40	53·2	46·2	49·8	+7·4	55	0	7	0·68	−0·22	2·7	5
	Prawle Point	52	44	51·6	46·4	49·1	+6·9	50	0	7	0·49	?	*	*
9. IRELAND, N.	Malin Head	52	38	49·4	40·1	44·9	+4·5	28	5	7	1·90	?	*	*
	Londonderry	54	39	51·7	40·4	46·3	+5·1	37	4	7	1·62	+0·72	*	*
	Mullaghmore	54	37	51·6	41·9	46·9	+4·6	35	0	7	1·44	+0·59	*	*
	Belmullet	53	36	50·6	42·0	46·5	+2·2	32	0	7	2·62	?	*	*
	Markree Castle	54	34	51·0	39·3	45·4	+3·5	35	8	7	1·48	+0·70	7·8	15
	Brookeborough	52	36	50·2	38·7	44·7	+4·7	33	9	6	1·20	?	*	*
	Armagh	54	37	51·8	39·6	45·9	+6·3	37	7	6	0·70	+0·04	9·1	18
	Donaghadee	53	35	50·7	41·7	46·4	+5·6	32	1	7	0·91	+0·24	*	*
	Edgeworthstown	54	35	51·1	38·3	45·0	+5·9	37	10	7	1·06	+0·39	*	*
10. IRELAND, S.	Dublin	57	39	54·3	42·1	48·4	+7·5	45	0	6	0·26	−0·24	12·2	23
	Parsonstown	56	33	53·0	39·3	46·4	+6·4	42	8	7	0·96	+0·26	11·1	21
	Kilkenny	54	32	52·3	39·1	46·0	+6·5	40	8	6	0·84	+0·05	*	*
	Waterford	53	37	51·5	42·4	47·1	+5·6	36	0	6	0·80	−0·24	*	*
	Roche's Point	54	37	52·4	43·7	48·2	+5·1	43	0	6	1·64	+0·41	*	*
	Valencia	55	43	53·3	44·6	49·1	+3·8	50	0	7	1·94	+0·47	10·8	20
	Killarney	57	40	53·6	44·9	49·4	+6·0	52	0	7	2·82	?	*	*
	Foynes	55	36	52·1	41·9	47·2	+5·5	37	0	7	2·18	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	55	44	53·1	47·9	50·6	+4·4	60	0	7	0·31	−0·59	*	*
	Jersey	54	44	51·7	45·1	48·5	+6·2	46	0	6	1·15	+0·37	5·3	9

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

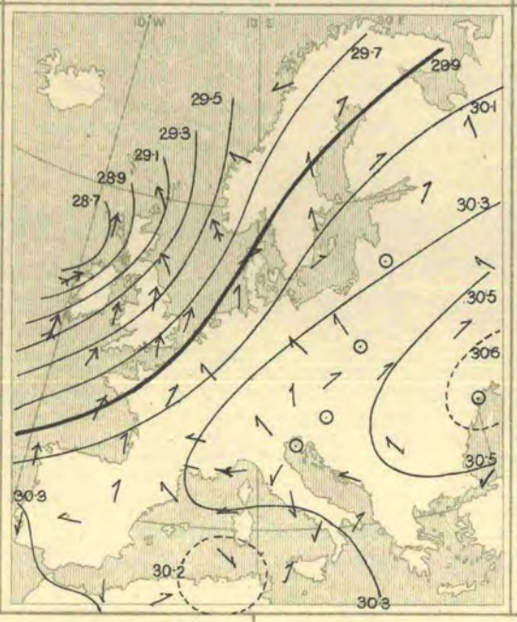
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

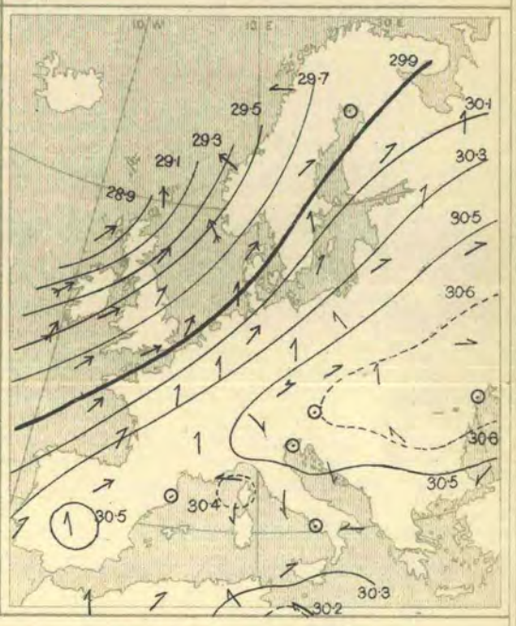
Sunday, 5th January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over eastern, south-eastern, central, and southern Europe, as well as at many of the Mediterranean stations; dull elsewhere; very rough, stormy, and wet over the British Islands, but clearing temporarily in several parts of Scotland. Continuing rough, squally, and rainy over the United Kingdom and north of France, showery in Denmark and northern Europe, tending to improve towards night in many places, but thunderstorms occurring in west of Ireland.

Temperature continuing below the freezing point over Russia, south-eastern and central Europe; lowest morning readings being 9° at Hermanstadt, 16° at Kharkov, 20° at Cracow, and 22° at Lemberg. High over the British Islands and on the Atlantic coasts of Europe generally; highest morning values 57° at Corunna, 53° at Bilbao and Valencia, 52° at Scilly, and 50° to 51° at many other stations in the south-west of our Islands and Brittany. Exceeding 50° in nearly all parts of the United Kingdom later and rising to 56° at Hurst Castle.

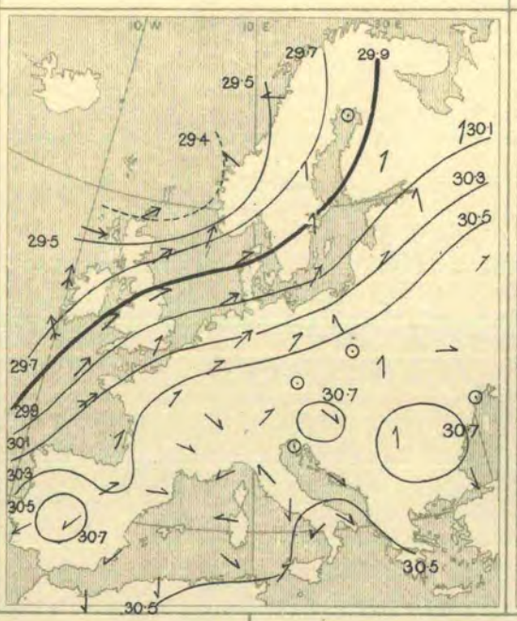
Wind blowing a gale from between South and South-West over the United Kingdom, and on coast of Brittany; less strong in other places. Light Southerly and South-Westerly over Finland, the Gulf of Bothnia, the Baltic, Germany, and north of France; Easterly in the south of France, light and variable elsewhere. Veering to South-Westward over British Islands later, and gale moderating in many places, but spreading further northward.

Barometer highest (30·2 ins. to 30·6 ins. and more) in very large high-pressure system over the south-eastern half of Europe; highest of all, 30·64 ins. at Odessa; lowest, 29·0 ins. to 28·7 ins. and less in deep depression lying off the north-west of the British Islands. Gradients steep over the United Kingdom and North Sea. Depression moving north-eastward later, and brisk recovery of pressure commencing in British Islands.

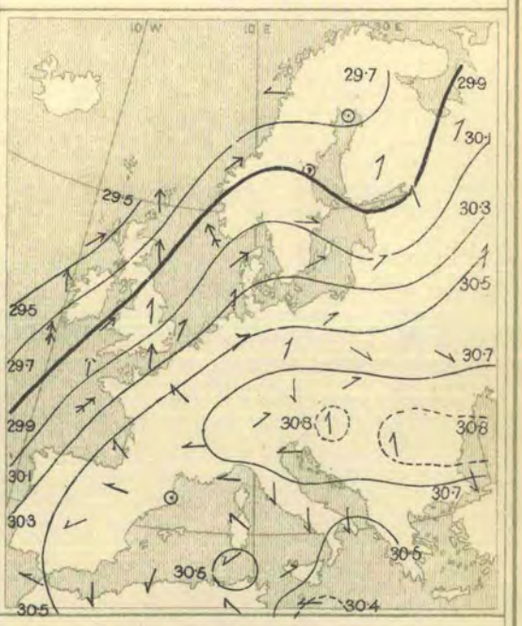
Monday, 6th January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over south-western, southern, central, and eastern Europe, but hazy in several places; temporarily bright over some parts of the British Islands also; cloudy, squally, and showery elsewhere, and very unsettled over the north-western countries generally; severe thunderstorms in some parts of Scotland. Heavy rain in Ireland later and smaller quantities over France, the Netherlands, Denmark, and northern Europe. A large fall at Algiers also.

Temperature very high for the time of year over the western and north-western countries, still freezing in the east and south-east. Lowest morning values, 6° at Hermanstadt, 17° at Cracow and Lemberg, and 23° at Warsaw and Moscow; highest 52° to 59° over the southern parts of the Mediterranean, 57° at Corunna and Bilbao, 53° at Lorient, Scilly, and Hurst Castle, 52° at Jersey and Valencia, 51° in London, and 47° as far north as Sumburgh Head. Daily maxima as high as 59° to 61° in the west of France, 51° to 58° over Ireland and England, and exceeding 60° over Italy and in some parts of Algeria.

Wind light from the Eastward on the northern side of the Mediterranean, and from the North-Eastward in Spain, very light and variable over central, south-eastern, and eastern Europe; Southerly and South-Westerly over all the more northern countries, and fresh to a gale in force. Fresh Southerly gales experienced at several western stations later, and strong squally breezes in many other places.

Barometer highest (30·6 ins. and more) over all the south-western, southern, and south-eastern parts of the Continent; lowest (29·4 ins. and less) over the Shetland Islands and off the west of Norway, and 29·7 ins. and less off the west of Ireland; gradients moderately steep over all the western and northern countries. Slight secondary disturbances skirting the west of our Islands later, but barometer rising in most other places.

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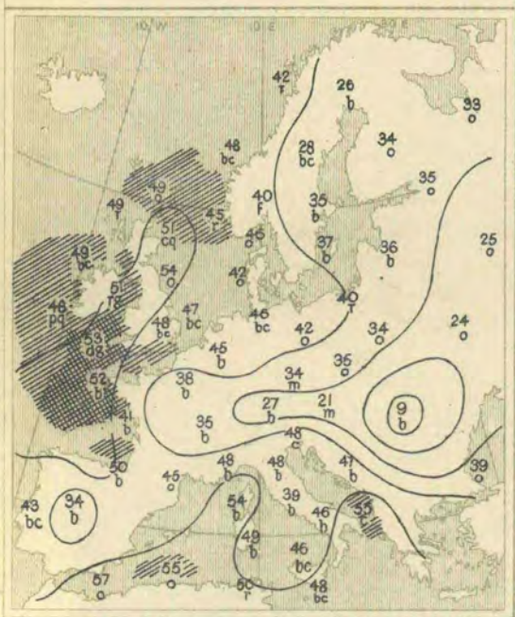
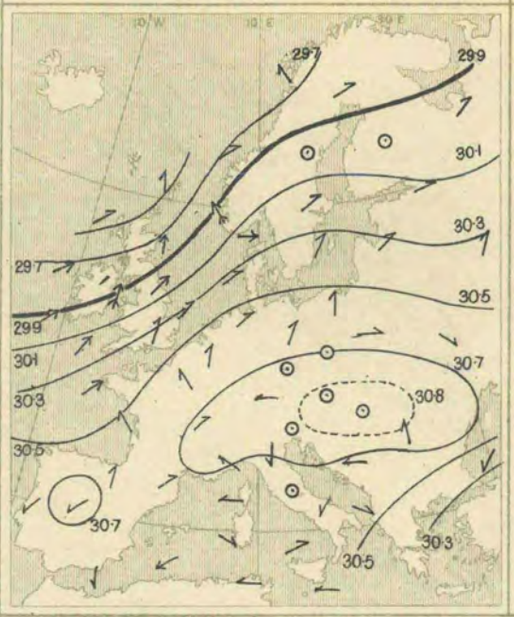
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 7th January.

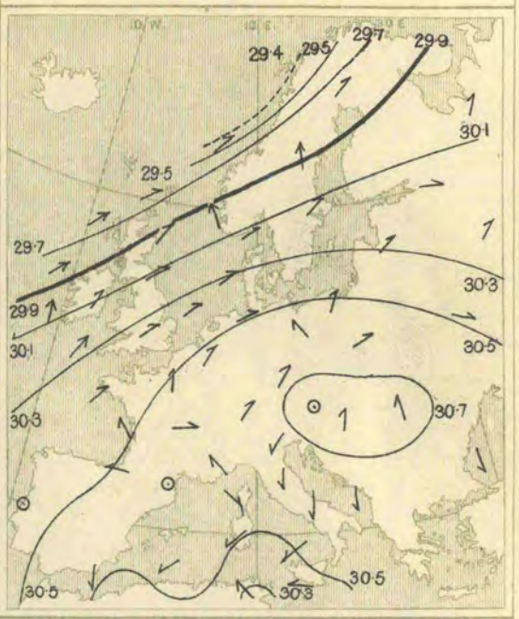
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair at nearly all the Continental stations and over the eastern half of England; cloudy, squally, and changeable over the western and northern parts of the United Kingdom and Norway; showery in several places. Some rain later in last-named regions and also in Algeria, but amounts not large. Heavy fall at Sfax (Tunis).

Temperature continuing very high for the time of year in extreme west and north-west, and above the freezing point over France, Germany, and the Baltic. Frost still holding over Russia, Austria, and south Germany, and re-commencing in north of Sweden; lowest morning readings, 9° at Hermanstadt, 21° at Vienna, 23° at Kharkov, 25° at Moscow, and 26° at Haparanda; highest, 58° at Malta, 57° at Oran, 55° at Algiers and Brindisi, and 50° to 54° over the greater part of England. Daily maxima, 50° to 57° over England and east of Scotland, and exceeding 60° in the south of France, as well as in many parts of Italy and Algeria.

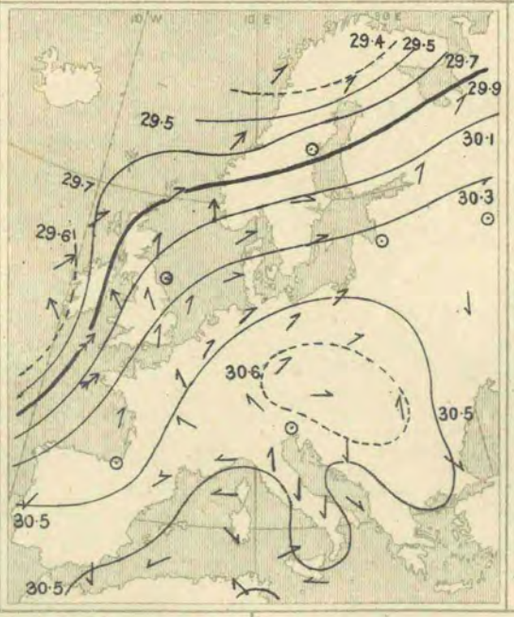
Wind extremely light and variable over eastern, south-eastern, and central Europe, as well as over Spain; Southerly to South-Westerly over the western and north-western countries; strong to a gale in many places. Wind backing in Ireland later; no other change of importance.

Barometer highest (30·6 ins. and more) over south-western, southern, and central Europe, and exceeding 30·8 ins. over considerable portion of Austria-Hungary; lowest (29·5 ins. and less) in low pressure system to the north-west of the British Isles; gradients somewhat steep over United Kingdom, Channel, and North Sea, moderate or slight elsewhere. Barometer rising in west and north of our Islands later, but pressure giving way somewhat over Austria and central Europe.

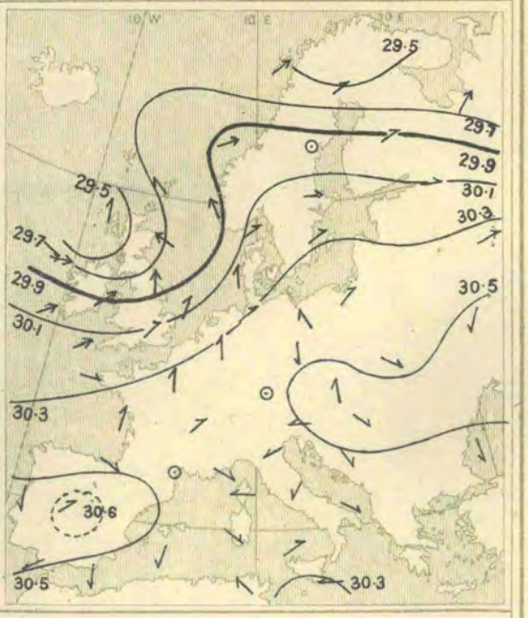
Wednesday, 8th January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over south-western, southern, and central Europe and the Mediterranean; hazy and foggy over Austria; dull and quiet over Russia; very changeable and unsettled over the British Islands, North Sea, and Scandinavia, with fog and mist over the Netherlands and England, rain in several places, and a threatening appearance in Ireland. Rain during day in the west and north, heavy at Christiansund and Sumburgh Head, and large quantities in Algeria.

Temperature remaining high over the British Islands and western and north-western coasts of Europe; highest morning values, 52° at Scilly, 51° at Prawle Point and in the south of Ireland, 50° at Lorient and Pembroke, rather below the freezing point at several Continental stations; the lowest values being 22° at Hermanstadt, 24° at Munich, 28° at Belfort and Wiesbaden, 32° at Paris and Kiev; giving way somewhat over the United Kingdom later; slight ground frost in England at night. Highest readings during day, 63° at Palermo, 59° at Cagliari, and 59° at several Algerian stations.

Wind very light and variable over the Mediterranean, central and Eastern Europe; Southerly and South-Westerly over the more northern and western countries; moderate over Scandinavia and the North Sea, strong to a gale in the west and south of our Islands. Westerly gales felt on our western coasts later and South-Easterly in the north-east.

Barometer exceeding 30·4 ins. over all the southern half of Europe, and exceeding 30·6 ins. over Austria-Hungary. Lowest, 29·4 ins. and less, over Lapland, 29·6 ins. and less off the west of Ireland, falling fast in the west, as a deep "V" shaped depression advanced north-eastwards from the Atlantic towards Scotland. Depression travelling away in a north-easterly direction towards Scandinavia during day.

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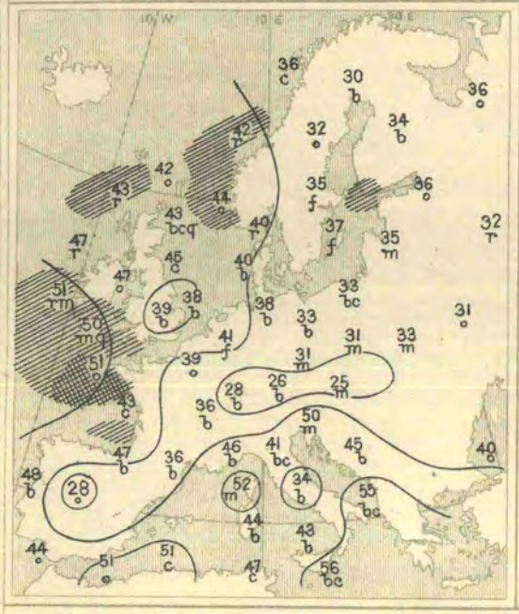
Thursday, 9th January.

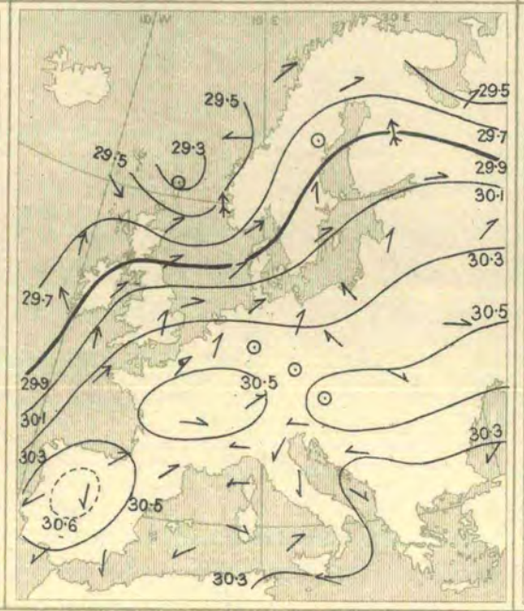
Temperature and Weather.

8 a.m.

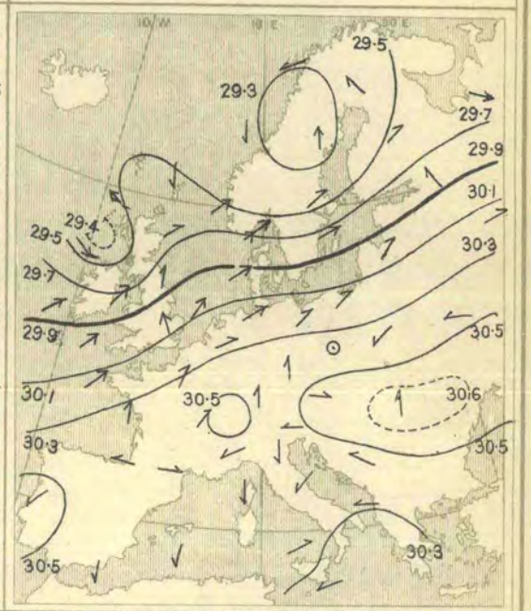


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over the east of England, Italy, and the south of France; dull and rainy over Ireland and at some of the Algerian stations; dull and misty over Russia; and foggy over the Netherlands. Rain during day in nearly all parts of western and northern Europe, but amounts not heavy, except at the most northern stations. Showers over southern Europe and Algeria.

Temperature still high in Ireland, but considerable fall observed over England. Highest morning values, 51° at Valencia and Brest, 50° at Roches Point and Scilly. Rather below the freezing point over southern Russia and the greater part of Austria, the lowest values being 23° at Buda Pesth, 25° at Vienna, 28° at Kharkov, and 31° over Bohemia. Rising somewhat over the United Kingdom during day.

Wind light and variable over southern Europe generally; fresh North-Westerly in Scotland; Southerly and increasing at most of the English and Irish stations and in the west of Norway; strong Westerly to Southerly winds over Finland also. Moderate gales and strong winds felt later on most of our coasts and strong squally breezes over the Baltic also; a gale in the Skager Rack.

Barometer exceeding 30·4 ins. all over south-western, central, and south-eastern Europe, and exceeding 30·5 ins. over central France and 30·6 ins. over Spain. Lowest (29·3 ins. and less) over the Shetland Isles, 29·5 ins. over the White Sea, and 29·8 ins. off the west of Ireland. New and somewhat deep depression advancing to our north-west coasts during day, subsequently passing in an easterly direction across Scotland. Pressure increasing to 30·6 ins. and more over Austria in evening.

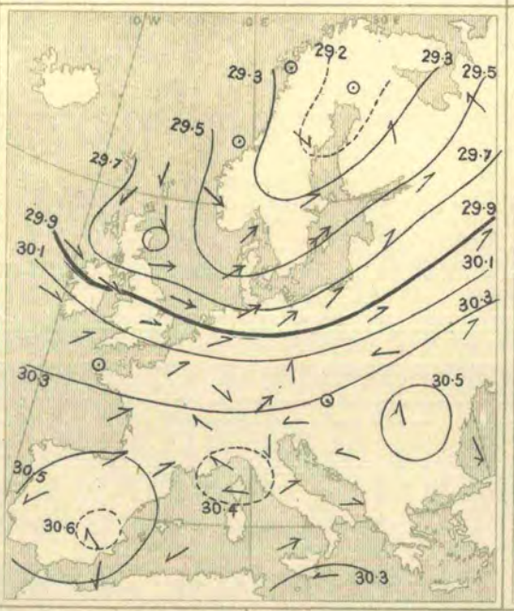
Friday, 10th January.

Temperature and Weather.

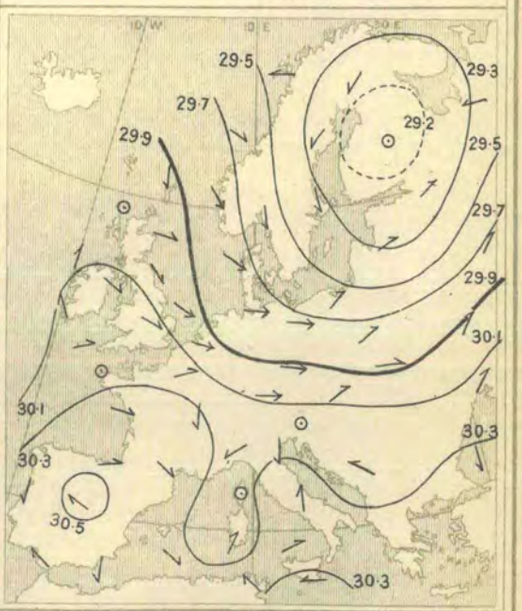
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine, bright, and quiet over the extreme south-eastern, southern, and south-western parts of Europe only; temporarily bright, but unsettled, in the western and southern parts of the British Islands; dull and unsettled over the northern half of Europe generally, with rain in several places; squally over the northern parts of Great Britain and Ireland. Rain subsequently over all but the southern and south-eastern countries, but amounts measured small.

Temperature changing irregularly. Highest, 54° to 57° over the south-eastern parts of the Mediterranean, 56° at Corunna, 51° at Rochefort, and 50° at Scilly; lowest, below the freezing point over south Germany, Austria, and southern Russia, as well as at Haparanda and Archangel; lowest readings of all, 22° at Hermanstadt, 26° at Kiev, and 27° at Kharkov. Beginning to rise over Ireland later, but becoming rather cold again over England at night.

Wind very light and variable over the Mediterranean and all the southern and south-eastern parts of Europe; strong from South-West over the Baltic and Germany, from West over the North Sea and England, and from West-North-West in some parts of Ireland; a moderate to fresh gale reported at several English and Irish stations. Moderate North-Easterly breeze felt over the Shetlands and northern half of Scotland. Westerly winds strong and gusty over England during day, but Southerly airs appearing in Ireland later.

Barometer highest (30·2 ins. to 30·6 ins.) over all the southern half of Europe; lowest (29·2 ins. and less) in a depression over the north of Sweden, 29·5 ins. and less in a small secondary disturbance lying over the Firth of Forth. Gradients rather steep over western Russia, north Germany, England, and Ireland. Disturbances passing away eastwards later, but new depression beginning to approach Ireland towards night.

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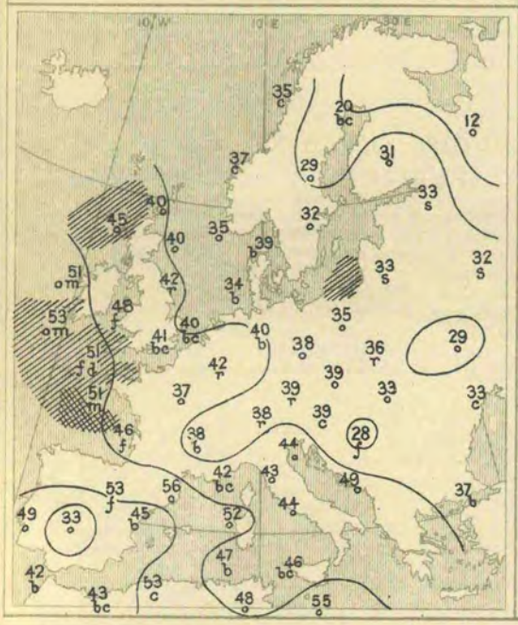
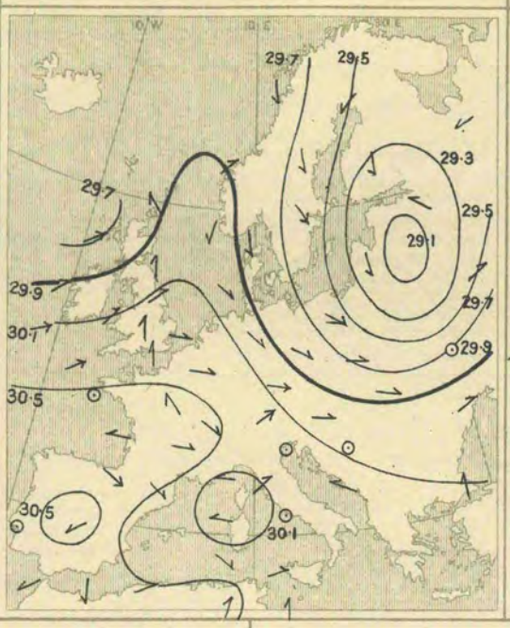
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 11th January.

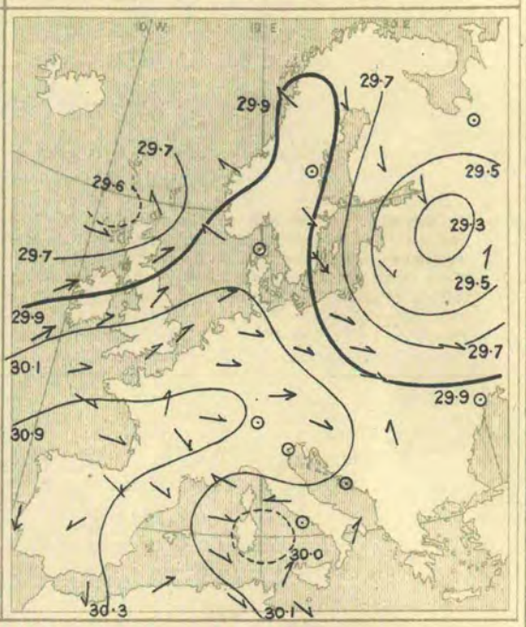
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright on the Algerian and most of the other Mediterranean coasts, as well as on the eastern shores of the North Sea; very cloudy, dull, and unsettled elsewhere; foggy on our western coasts, rainy in many parts of Great Britain, Germany, and France, with snow at several Russian stations. Rain or snow falling very generally later, but not in large quantities.

Temperature very changeable over north-western Europe; below the freezing point in many parts of Russia and in Hungary, the lowest readings of all being 12° at Archangel, 20° at Haparanda, and 28° at Kharkov and Buda Pesth; highest, 50° and more in the west of our Islands and at Biarritz, as well as over the south-eastern parts of the Mediterranean; highest of all, 55° at Malta, 53° at Valencia and Biarritz. Daily maxima exceeding 50° over our Islands, and exceeding 60° over several parts of southern Europe.

Wind Northerly over Sweden and the Baltic, North-Westerly to Westerly over Germany, South-Westerly to South-Easterly over central Russia, Westerly and South-Westerly in our Islands, but not strong, North-Easterly to North-Westerly over southern Europe. Northerly wind becoming stronger over the Baltic later and blowing a gale at Wisby.

Barometer highest, 30·2 ins. to 30·5 ins., in an anticyclone covering France, Spain, the Bay of Biscay, and adjacent parts of the Atlantic; lowest, about 29·1 ins. in a large depression lying over the Baltic Provinces, 29·7 ins. in another off the north-west of Scotland, and 30·1 and less in a third lying over Corsica and the Gulf of Genoa. Northern disturbances moving eastwards later, that in south moving south-eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➤ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During nearly the whole of this week pressure was highest over eastern, south-eastern, and southern Europe; lowest to the northward and north-westward of our Islands; the gradients being steepest over the British Islands and North Sea. The wind consequently varied in direction between South and West over western and northern Europe, and ranged in force from a light breeze to a strong gale as certain well-marked depressions travelled in a north-easterly direction outside our extreme north-western coasts. The weather was consequently very mild and showery except in the south and south-east. On Friday, however, pressure had given way completely over Russia, but increased over Spain; the principal depression which appeared in the north consequently took a more easterly course, over Finland, while a secondary system passed across Scotland and the North Sea to the Baltic. The wind, therefore, became more Westerly, the air drier, and temperature fell somewhat, but at the close of the week the distribution of pressure seemed likely to revert to that prevalent earlier in the week.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of each Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
December 23rd, 1889	Llandudno	56	38	51·7	42·3	47·2	+5·0	36	0	6	1·69	+0·95	2·3	5
„ 30th, „	Oswaldkirk	—	—	—	—	—	—	—	—	—	—	—	10·1	20
„ 30th, „	Llandudno	54	29	45·6	37·6	41·8	−0·5	10	19	0	—	−0·72	6·8	13
January 4th, 1890	York	—	—	—	—	—	—	—	—	—	—	—	0·0	0

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 3.] *Third Series.* WEEK ENDING SATURDAY, 18TH JANUARY, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the last page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. of this Series.

Temperature of the Air.

	DISTRICTS. (See p. 14.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	56	34	48·6	38·3	43·8	6 above.	27	+22	10	−26	62*	+42	46*	−59
	1. SCOTLAND, EAST	55	31	49·3	37·9	43·9	8 above.	31	+25	11	−34	65	+44	61	−67
	2. ENGLAND, N.E.	55	33	49·4	39·1	44·4	7 above.	29	+24	8	−34	63	+44	73	−42
	3. ENGLAND, EAST	54	30	49·5	38·1	44·0	7 above.	30	+24	11	−35	64	+44	92	−41
	4. MIDLAND COUNTIES	55	30	51·2	38.8	45·3	7 above.	37	+29	9	−37	75	+47	87	−41
	5. ENGLAND, SOUTH	56	32	50·6	41·1	46·0	7 above.	32	+23	3	−34	71	+42	55	−49
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	53	30	50·0	41·1	45·6	7 above.	29	+21	3	−33	68	+40	30	−69
	7. ENGLAND, N.W.	57	33	50·9	40·7	46·0	6 above.	33	+26	4	−32	69	+43	42	−55
	8. ENGLAND, S.W.	54	32	51·0	43·7	47·5	6 above.	39	+24	0	−22	89	+42	39	−23
	9. IRELAND, NORTH	59	31	51·3	39·2	45·5	4 above.	36	+25	8	−22	81	+41	33	−47
	10. IRELAND, SOUTH	57	32	52·7	41·6	47·4	6 above.	39	+20	1	−21	106	+48	11	−52
	— CHANNEL ISLANDS	55	39	51·8	46·0	49·0	5 above.	49	+30	0	−13	112	+53	20	−15

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 14.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH		19	3 more.	18	+ 3	4·4*	+ 0·2	1	3	5*	−16	4	−10
	1. SCOTLAND, EAST	5	13	6 more.	15	+ 6	3·1	+ 1·1	9	18	17	−18	12	−12
	2. ENGLAND, N.E.	3	2	2 less.	10	+ 1	0·8	− 0·7	14	26	20	0	13	0
	3. ENGLAND, EAST	3	2	3 less.	11	+ 1	0·9	− 0·5	13	23	31	+ 5	19	+ 3
	4. MIDLAND COUNTIES	4	4	2 less.	13	+ 4	1·0	− 0·8	12	21	27	+ 4	17	+ 3
	5. ENGLAND, SOUTH	4	4	3 less.	11	+ 2	1·3	− 0·6	12	21	29	+ 6	17	+ 3
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	7	18	3 less.	19	+ 8	5·3	0·0	9	17	19	− 3	12	− 2
	7. ENGLAND, N.W.	6	7	0 (average)	17	+ 7	2·4	+ 0·1	13	25	21	− 2	13	− 1
	8. ENGLAND, S.W.	6	10	0 (average)	16	+ 5	2·3	− 0·3	11	18	29	− 4	17	− 2
	9. IRELAND, NORTH	7	12	5 more.	19	+ 5	3·3	+ 1·0	11	21	33	+ 1	21	+ 2
	10. IRELAND, SOUTH	6	12	2 more.	18	+ 6	3·7	+ 0·8	14	25	35	− 4	21	− 3
	— CHANNEL ISLANDS	6	5	3 less.	17	+ 5	1·7	− 0·8	13	22	34	−10	19	− 6

General Remarks.

Weather has continued in an unsettled condition generally, and this condition increased in intensity as the week advanced. In Ireland and the greater part of Scotland a good deal of rain has fallen, but in most of the English districts the rainfall has been slight, and some fine, bright days have been experienced. Towards the end of the week thunder and lightning occurred at many of our more western and northern stations.

Temperature has again been much above the mean, the excess having ranged from 4° in "Ireland N." and 5° in the "Channel Islands" to 6° or 7° in most other districts and to 8° in "Scotland E." The highest of the maxima, which were registered on somewhat irregular dates, ranged from 53° in "Scotland W." to 57° in "England N.W." and "Ireland S." and to 59° in "Ireland N." The lowest of the minima were generally recorded either on the 14th or 15th, and varied from 30° in "England E.," the "Midland Counties," and "Scotland W." to between 31° and 34° in most other districts and to 39° in the "Channel Islands."

Rainfall has exceeded the mean in Ireland and the north and east of Scotland, and has equalled it in "England S.W." and "England N.W." but in all other districts a deficit is shown.

Bright Sunshine has been more prevalent generally than for some time past. The percentage of the possible amount of duration ranged from 3 to 18 in Scotland, from 21 to 25 in Ireland, and from 18 to 26 over England.

Barometer and Wind.—Depressions, moving north-eastwards, have continued to skirt our western and northern coasts. Some of the disturbances have been deep—especially that shown off our north-western coasts at the close of the week. Southerly to South-Westerly or Westerly winds have consequently been experienced very generally; in the east and south-east they were of little force until the end of the period, but in all the western and north-western districts they have been fresh or strong, and occasionally increased to the force of a gale. The gale which was in progress on the 18th was very general, and of unusual severity on our western and north-western coasts.

* This value has been altered owing to the receipt of further information.

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III.– DATA from which the SUMMARY on page 13 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	50	40	47·0	41·6	44·4	+5·2	18	1	5	0·87	+0·03	*	*
	Stornoway	55	35	48·3	38·3	43·5	+4·7	26	10	7	2·07	+0·89	3·8	8
	Wick	52	34	48·0	38·0	43·2	+5·0	25	11	4	0·46	+0·01	*	*
	Lairg ℌ	54	34	48·7	35·9	42·6	+5·6	30	17	5	0·88	+0·08	*	*
	Glencarron ℌ	56	35	49·3	38·7	44·2	+7·5	29	9	7	3·64†	+1·44	0·0	0
	Fort Augustus ℌ	55	36	50·5	38·9	44·9	+7·2	33	9	7	3·15†	?	0·2	0
1. SCOTLAND, E.	Nairn	53	31	51·0	37·4	44·5	+7·3	37	13	5	1·01	+0·55	*	*
	Aberdeen	51	36	49·0	39·9	44·6	+7·4	27	6	3	0·48	−0·05	12·5	25
	Braemar ℌ	50	33	47·5	36·5	42·2	+8·5	25	15	6	3·44	+2·76	3·2‡	6‡
	Ochtertyre ℌ	53	31	49·1	35·1	42·4	+5·8	32	19	7	2·02	+0·82	*	*
	Leith	55	36	51·4	40·6	46·2	+8·8	35	4	3	0·29	−0·16	*	*
	Marchmont ℌ	50	35	48·0	38·0	43·2	+7·8	25	11	4	0·31	−0·34	11·3	22
2. ENGLAND, N.E.	Alnwick Castle	52	37	48·6	38·7	43·9	+6·7	27	9	3	0·58	+0·10	*	*
	Durham	54	35	50·4	38·6	44·7	+7·5	33	10	3	0·33	−0·15	17·7	33
	Shields	55	37	50·6	40·0	45·5	+7·3	33	6	3	0·11	−0·29	*	*
	Scarborough ℳ	51	36	48·1	39·4	43·9	+6·2	24	7	2	0·05	−0·37	15·0‡	28‡
	York	53	33	51·1	38·3	45·0	+7·1	37	10	2	0·03	−0·39	9·2	17
	Spurn Head	50	36	47·6	39·3	43·6	+4·9	23	8	3	0·14	?	*	*
3. ENGLAND, E.	Hillington ℳ	51	30	49·1	37·4	43·5	+6·8	30	13	1	0·09	−0·33	11·9	22
	Yarmouth	50	35	48·0	39·0	43·7	+5·5	25	8	4	0·15	−0·33	*	*
	Geldeston	52	33	49·3	38·2	44·0	+5·9	30	11	4	0·13	−0·24	14·6	26
	Cambridge	54	32	51·3	38·0	44·9	+7·7	37	11	4	0·13	−0·22	11·6	21
	Rothamsted	52	32	49·6	37·4	43·7	+6·5	31	13	4	0·36	−0·26	*	*
	Ingatestone	51	33	49·6	38·4	44·2	+6·5	31	10	2	0·25	−0·15	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	54	32	51·7	36·4	44·4	+6·1	40	16	2	0·04	−0·38	9·8‡	18‡
	Loughborough	53	33	52·1	39·3	46·0	+8·8	39	8	4	0·22	−0·26	12·5‡	23‡
	Cheadle ℳ	55	32	50·1	37·6	44·1	+7·4	33	12	6	0·49	−0·13	*	*
	Churchstoke ℳ	53	34	51·8	39·1	45·7	+7·8	38	8	6	0·81	+0·16	14·0	25
	Hereford ℳ	55	33	51·9	40·3	46·3	+8·1	37	5	2	0·53	−0·09	*	*
	Cirencester	51	30	49·7	39·0	44·6	+6·4	31	8	6	0·49	−0·29	9·6	17
	Oxford	53	36	50·9	40·1	45·7	+7·2	34	5	3	0·24	−0·28	12·0	21
5. ENGLAND, S.	London	54	35	51·7	40·4	46·3	+7·8	37	4	3	0·33	−0·17	11·0‡	19‡
	Strathfield Turgiss ℳ	52	32	50·7	38·4	44·8	+6·6	35	10	4	0·38	−0·22	*	*
	Dungeness	53	35	49·7	40·7	45·4	+5·5	29	4	4	0·25	−0·35	*	*
	Hastings (St. Leonards)	52	38	49·4	41·5	45·6	+6·1	27	1	4	0·30	−0·35	11·8	20
	Southampton	56	36	51·7	41·4	46·8	+8·0	36	2	5	0·58	−0·22	13·7	24
	Hurst Castle	51	39	50·4	43·6	47·1	+6·5	36	0	5	0·29	−0·41	*	*
	Stowell ℳ	51	32	49·7	41·4	45·7	+5·8	28	2	6	0·49	?	11·1‡	19‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	?	37	?	42·8	?	?	?	?	7	4·31†	+2·40	*	*
	Glasgow	53	38	50·6	41·1	46·0	+7·8	32	3	6	0·89	−0·13	6·3	12
	Ardrossan	50	41	48·9	43·1	46·1	+6·9	29	0	7	0·78	−0·24	*	*
	Glenlee ℌ	52	30	50·4	37·4	44·2	+6·4	35	13	6	2·32	+0·48	*	*
	Douglas (Isle of Man)	51	33	50·2	41·2	45·9	+5·5	31	2	7	0·76	−0·37	12·0	22
7. ENGLAND, N.W.	Newton Reigny	51	33	49·7	38·6	44·4	+7·3	31	10	6	1·30	+0·42	13·6	26
	Stonyhurst	53	34	49·5	38·8	44·4	+6·2	30	9	7	1·00	+0·06	14·3	26
	Blackpool ℳ	55	36	50·1	39·7	45·1	+4·9	31	6	7	0·80	+0·11	12·3	25
	Manchester	53	34	50·4	38·8	44·8	+6·2	33	9	6	0·30	−0·44	*	*
	Liverpool Obsy. (Bidston)	57	38	52·2	41·1	46·9	+6·4	38	3	4	0·39	−0·11	*	*
	Llandudno ℳ	57	40	54·3	44·2	49·5	+8·2	53	0	6	0·42	−0·24	12·3	22
	Holyhead	51	40	50·4	43·6	47·1	+4·7	36	0	7	0·73	−0·06	*	*
8. ENGLAND, S.W.	Llandovery	53	32	51·1	39·7	45·6	+4·9	35	6	7	1·88	+0·63	*	*
	Pembroke	51	42	50·0	46·7	48·4	+6·0	45	0	7	1·03	+0·14	11·0	20
	Arlington (N. Devon)	52	37	50·0	41·9	46·1	+5·9	29	0	7	1·34	+0·38	*	*
	Cullompton ℳ	54	33	51·8	41·7	47·0	+5·8	36	1	3	0·56	−0·22	10·5	18
	Falmouth	52	39	51·4	44·6	48·2	+4·9	43	0	7	1·15	−0·15	11·6	20
	Plymouth	53	40	52·0	45·1	48·7	+6·4	47	0	7	0·75	−0·17	8·9	15
	Prawle Point	53	43	50·6	45·9	48·3	+6·2	44	0	5	0·42	?	*	*
9. IRELAND, N.	Malin Head	54	38	49·0	40·0	44·7	+4·5	27	6	5	0·83	?	*	*
	Londonderry	55	35	51·6	39·7	45·9	+5·0	37	6	7	1·04	+0·13	*	*
	Mullaghmore	56	38	51·6	41·1	46·6	+4·0	36	3	7	0·98	+0·17	*	*
	Belmullet	55	31	51·9	41·0	46·7	+2·1	37	3	7	2·84	?	*	*
	Markree Castle	57	33	51·9	38·6	45·5	+3·4	39	10	7	1·38	+0·60	11·2	21
	Brookeborough	59	35	51·3	38·2	45·0	+4·9	37	11	7	1·31	?	*	*
	Armagh	54	33	52·5	39·1	46·1	+6·6	41	8	6	0·87	+0·20	10·6	20
	Donaghadee	54	34	50·4	38·4	44·6	+4·0	33	10	6	0·66	−0·02	*	*
	Edgeworthstown	54	31	51·1	36·4	44·0	+4·8	38	16	7	1·23	+0·58	*	*
10. IRELAND, S.	Dublin	57	38	54·6	42·2	48·7	+8·0	47	0	4	0·44	−0·05	20·0	36
	Parsonstown	55	36	52·7	38·6	45·9	+5·9	42	10	6	1·04	+0·34	13·7	25
	Kilkenny	54	32	51·6	38·6	45·4	+6·1	38	10	6	0·58	−0·23	*	*
	Waterford	54	37	51·2	42·2	46·9	+5·6	34	0	7	0·74	−0·34	*	*
	Roche's Point	53	40	51·9	44·4	48·3	+5·4	44	0	7	1·80	+0·52	*	*
	Valencia	55	37	53·0	42·7	48·1	+2·9	43	0	7	1·17	−0·35	8·5	15
	Killarney	56	38	53·4	42·2	48·0	+4·7	42	0	7	2·99	?	*	*
	Foynes	55	38	52·9	42·1	47·7	+6·3	40	0	4	0·71	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	40	52·3	46·9	49·7	+3·5	54	0	7	0·57	−0·33	*	*
	Jersey	55	39	51·3	45·0	48·3	+6·1	44	0	4	0·44	−0·30	13·2	22

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

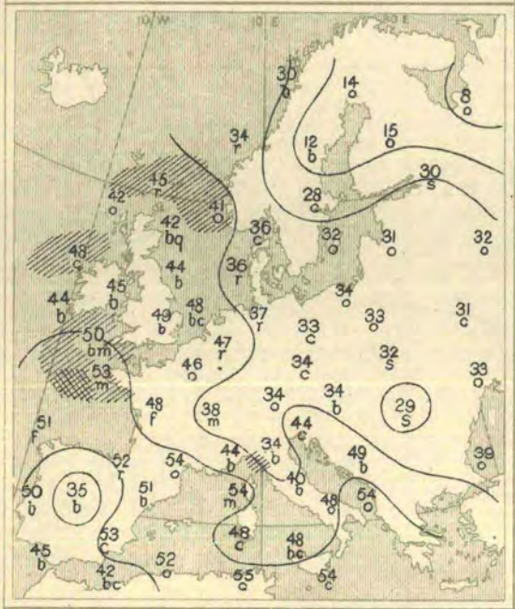
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 12th January.

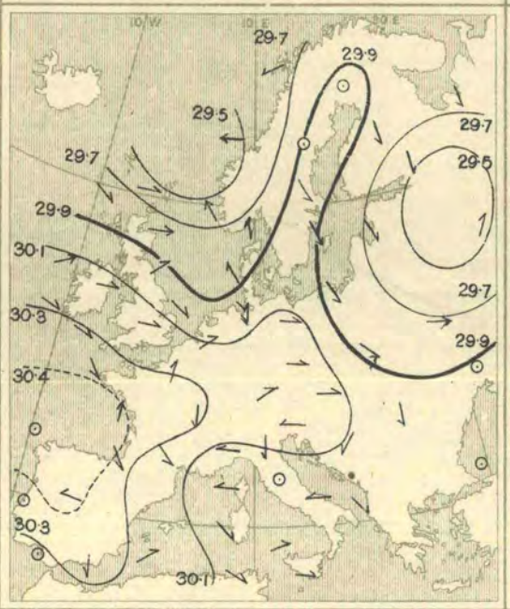
Temperature and Weather.

8 a.m.

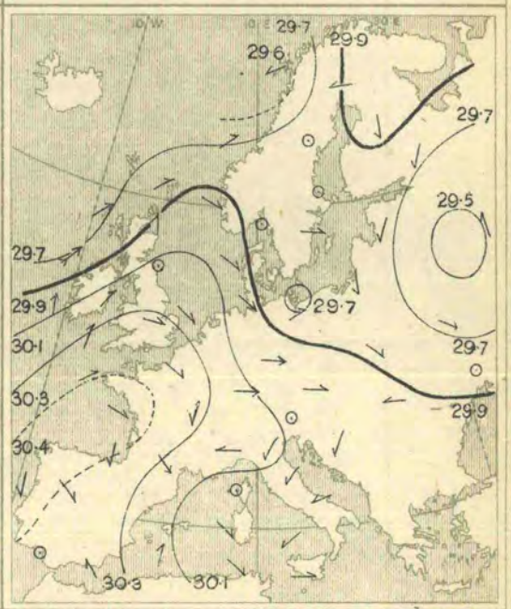


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright at most of the Mediterranean stations and in Spain, as well as over the greater part of the British Isles; cloudy, changeable, and unsettled elsewhere, with rain and sleet showers in Scotland, rain over the Netherlands, snow in many parts of Austria, and also at St. Petersburg. Rain fell during day at many Continental stations, and later on in Ireland also. Some snow fell in central Russia.

Temperature very changeable in the north-west; highest, 50° and more over the southern and south-eastern parts of the Mediterranean, 47° to 53° over the south-west of our Islands, the west of France, and north of Spain; lowest, 8° to 14° Faht. over Sweden and Finland, and below the freezing point over the Baltic and northern parts of Russia, as well as in some parts of Austria and Germany. Daily maxima exceeding 50° over the United Kingdom and exceeding 60° at some Italian stations.

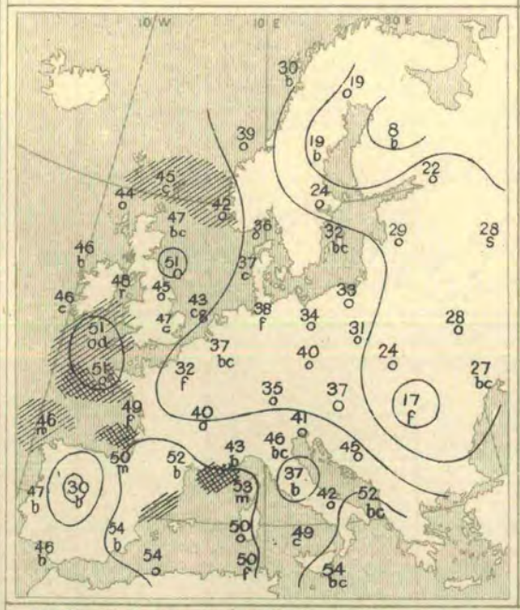
Wind fresh from the Westward and North-Westward over the United Kingdom, Southerly on the eastern shores of the North Sea, Easterly in the north of Norway. Another cyclonic circulation of moderate breezes prevailing over Russia and a third over the Mediterranean. Wind backing to Southwards in Ireland later and rising to a gale, while a North-Westerly gale was felt at the mouth of the Elbe.

Barometer highest, 30·2 ins. to 30·5 ins., over Spain, the Bay of Biscay, the west of France, and south Germany; lowest, 29·5 ins. and less in two depressions—one off the west of Norway, the other over central Russia—and 30·0 ins. and less in a third system lying near Palermo. Barometer rising fast over England and the North Sea subsequently, a well-marked local depression forming between Swinemunde and Berlin, and a new depression approaching Ireland from the Atlantic.

Monday, 13th January.

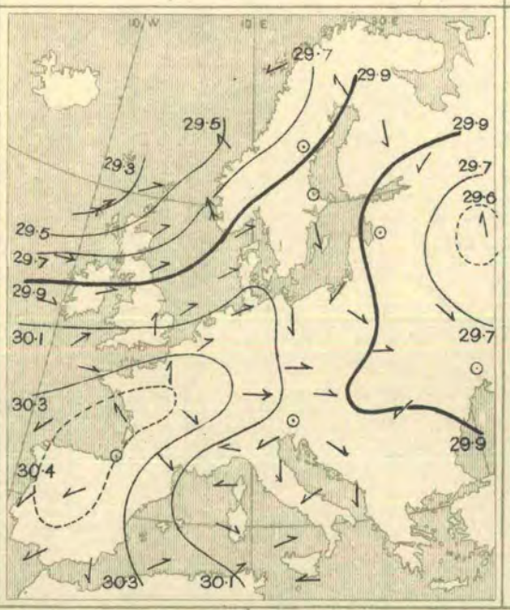
Temperature and Weather.

8 a.m.

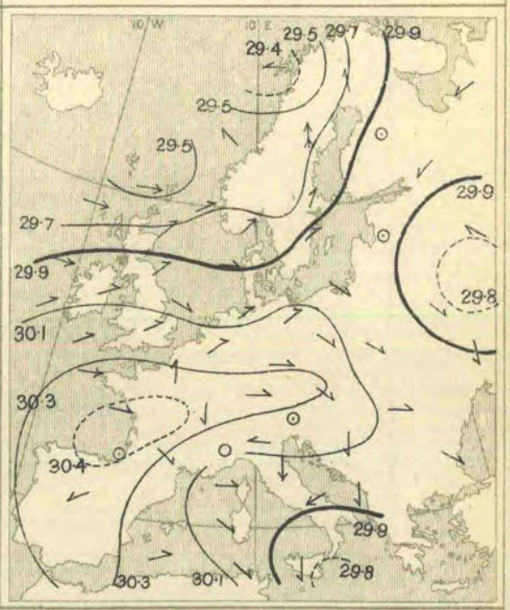


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over Spain and at most of the Mediterranean stations; clearing up temporarily over Ireland and some parts of Scotland; foggy over France, misty and damp in the Channel, dull and unsettled elsewhere; snow reported at Moscow. Continuing changeable and unsettled over the United Kingdom during the day, but fine and bright at frequent intervals. Considerable sleet and snow at Vienna.

Temperature still exceeding 50° over the south-eastern and southern parts of the Mediterranean, and ranging from 49° to 51° in the west of France and south-west of England; below the freezing point over eastern and northern Europe, the lowest readings of all being 8° at Kuopio, and below 20° over Finland generally, the north of Sweden, and south of Hungary. Rising to considerably above 50° over the British Isles and France later, to 60° and more in the south of France and on several parts of the Spanish coasts.

Wind Southerly to Westerly over the British Islands, the Channel, and North Sea; moderate at the eastern stations, strong to a gale in the north-west; light Northerly to Westerly over Russia, Poland, and south Germany; Easterly on the northern shores of the Mediterranean; very variable elsewhere. Westerly gale in north of Scotland later, and increasing Easterly winds in the north-west of Norway, but wind subsequently moderating generally over Ireland and England.

Barometer highest, 30·20 ins. to about 30·45 ins. over Spain, the Bay of Biscay, France, and western Germany, and exceeding 30·0 ins. in a ridge extending northwards to near Stockholm; lowest, 29·4 ins. and less in a depression off the north of Scotland, 29·6 ins. and less in a shallow system over central Russia, and 30·0 ins. and less in another lying over Sardinia and Corsica. Northern depression moving north-eastwards later, and anticyclone over south-western Europe spreading eastwards to Austria.

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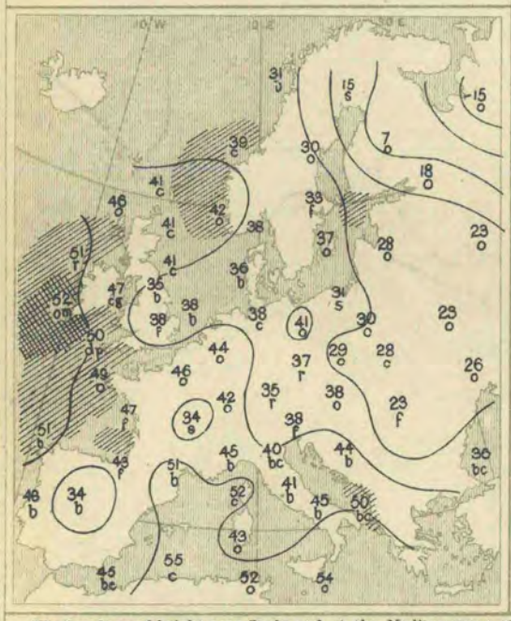
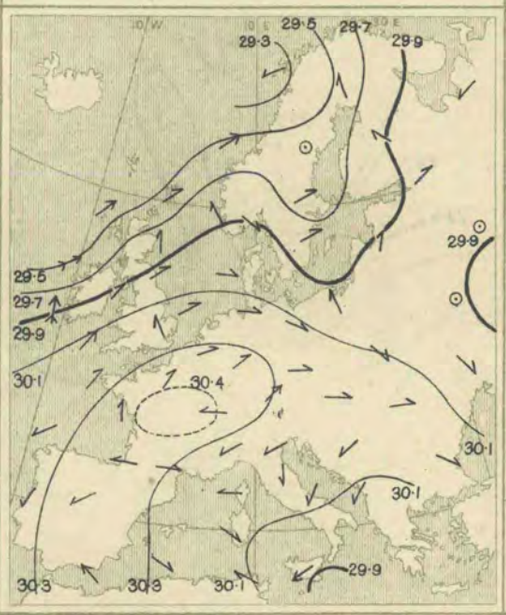
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 14th January.

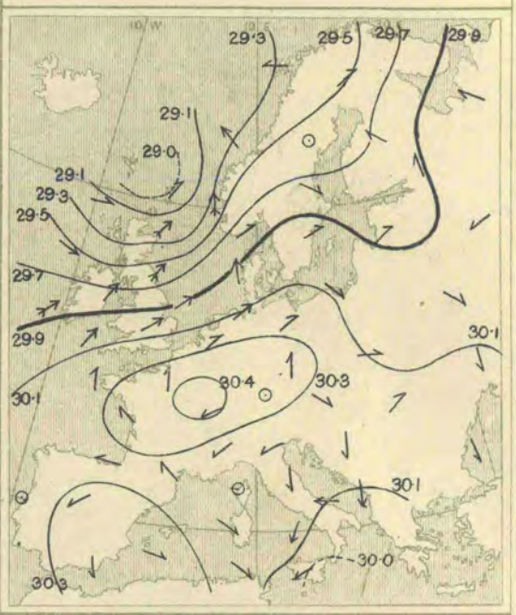
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Spain and at the Mediterranean stations, temporarily bright over the North Sea and east of England, dull generally elsewhere; foggy in many parts of France and England, and also in Austria; rain falling at our western stations, snow in many parts of Finland and the Baltic Provinces, sleet in Germany; rain falling later over the greater part of western Europe, the North Sea, and Baltic, but amounts not large except in Norway and the north-west of Ireland.

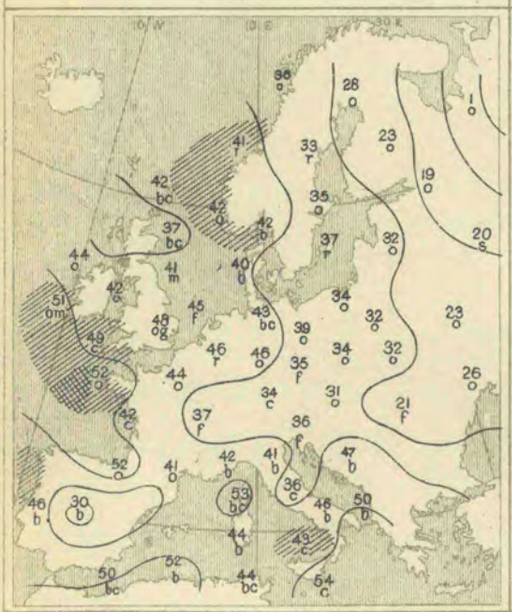
Temperature still above 50° at Brindisi, Malta, some of the Algerian stations, and Barcelona, also at Belmullet, Valencia (Ireland), and Corunna, and touching 50° at Roches Point, Scilly, and Prawle Point. Below the freezing point over Poland, Hungary, and southern Russia, and as low as 18° at St. Petersburg, 15° at Haparanda, 7° at Kuopio, and *minus* 15° Fahr. at Archangel. Rising very quickly over England and the North Sea later, exceeding 50° at most stations, and touching 62° at Perpignan and 64° at Sanguinaire and Nemours; falling somewhat over Ireland.

Wind very variable; mainly Easterly to Northerly over the Mediterranean, Southerly to Westerly over the northern half of Europe; moderate to fresh in most places, strong on our own western coasts, and a strong gale in the extreme west of Ireland; Southerly and South-Westerly gales extending over the Irish Sea, Scotland, and Scandinavia later, and squally breezes to our south-eastern counties.

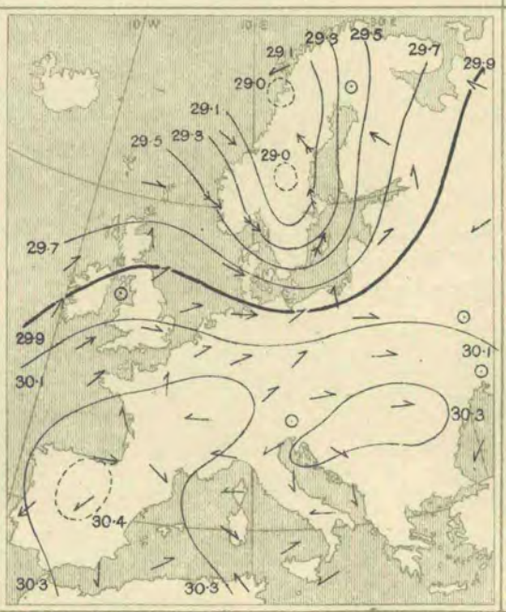
Barometer highest, 30·2 ins. to 30·4 ins. and more, over Spain, France, the south-east of England, western Germany, and Austria; lowest, 29·3 ins. and less, off the north-west of Norway, 29·5 ins. and less off our own north-western coasts, and 29·9 ins. and less in shallow depressions lying over southern Russia and near Malta. Deep depression reaching our northern coasts later and travelling towards Norway, but continental high-pressure area undergoing very little change.

Wednesday, 15th January.

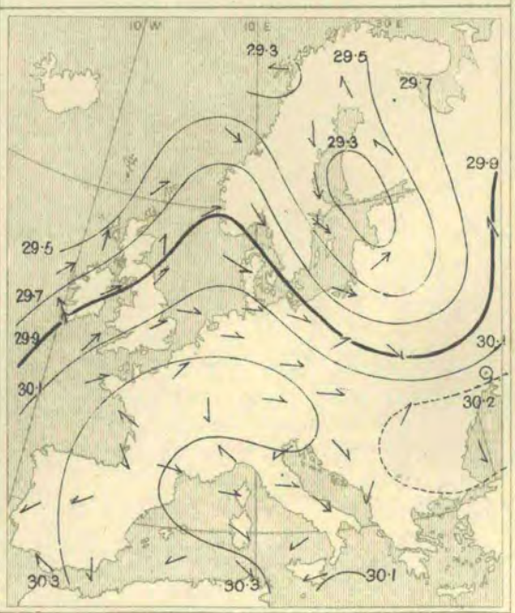
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather still fine and bright over the Mediterranean and southern Europe; temporarily fine in Scotland, the north-east of England, and over the North Sea; dull and gloomy elsewhere. Fog very prevalent in Austria-Hungary and the southern parts of France; misty rain in the south-west and west of our Islands, and heavier rains over Scandinavia and the Baltic, as well as in the Netherlands. Slight rain later in west and south of our Islands and the north of France, as well as over Baltic; large quantities of snow in Finland, Lapland, and Sweden, but sky cleared subsequently.

Temperature changing fitfully, but not greatly over the northern and north-western countries. Morning readings exceeding 50° at Brindisi, Malta, and Algiers, as well as at Biarritz and Valencia, and as high as 48° in London and 46° at Brussels; below the freezing point over Finland, Russia, Poland, and Austria-Hungary, and as low as 19° at Buda Pesth and St. Petersburg, 20° at Moscow, 21° at Hermanstadt, 22° at Kharkov, and 23° at Kiev. No important change later, but maxima again exceeding 60° in the south of France and over Algeria.

Wind very light and variable over the southern half of Europe, strong and variable in the north; Southerly to South-Easterly gales over the Baltic and Finland; North-Westerly to Westerly gales and strong winds over Norway, Denmark, and Holstein; South-Westerly and Southerly breezes, light to fresh, over the British Isles; Southerly gales in Ireland and the north of Scotland later, and freshening Southerly winds over the Irish Sea, but gales dying down in Norway and shifting to North-West in Sweden.

Barometer highest, 30·2 ins. to 30·3 ins. and more, over the southern half of Europe and Algeria, and exceeding 30·4 ins. over Spain; lowest, 29·1 ins. and less in a complex depression over Scandinavia, and 29·8 ins. and less off the north-west of Ireland. Scandinavian depression moving eastwards to Baltic later, and fresh fall of barometer commencing over the western parts of the British Isles.

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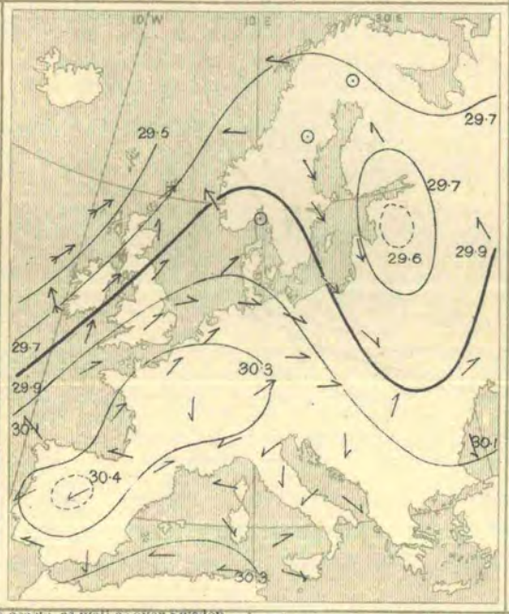
II.—SUMMARY OF WEATHER OVER EUROPE.

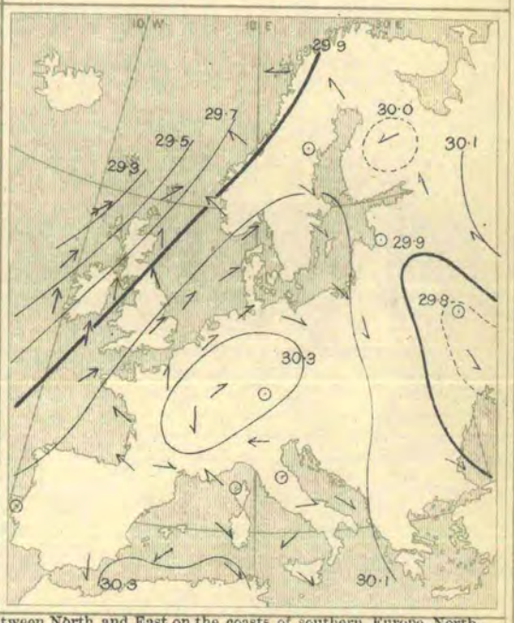
Thursday, 16th January.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



6 p.m.



Weather fine and bright over the Mediterranean and on the Spanish coasts as well as over Sweden, and at several of our own north-eastern and eastern stations; dull elsewhere, with rain at times on our western coasts, and also at Riga and Vienna; snow at Ulcaborg, and mist or fog locally in several parts of Europe. Rain later at all the Irish and Welsh stations, but heavy at Belmullet only; lightning at Malin Head; snow over the extreme northern and southern parts of Russia.

Temperature risen considerably over the northern parts of the British Islands and in Austria-Hungary, slightly over the Mediterranean and Algeria, fallen a little over France and Germany. Still exceeding 50° at Brindisi, Malta, Algiers, and many of the British and Irish stations, but below the freezing point over Lapland, Finland, Russia, some parts of Hungary and Switzerland; lowest readings of all, 15° at Moscow, 23° at Haparanda, and 24° both at Kuopio and Hermanstadt. Rising to between 50° and 57° over the United Kingdom later, and to upwards of 60° over Algeria and at some of the stations in southern Italy.

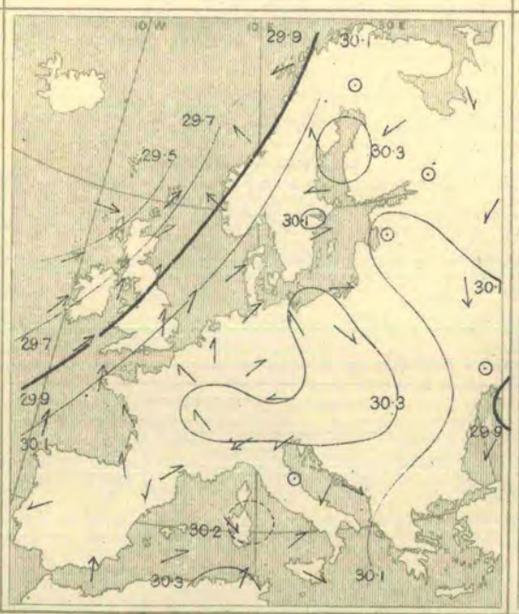
Wind light and variable from between North and East on the coasts of southern Europe, North-Westerly over the Baltic, Germany, and Poland (a moderate gale at Riga), but Southerly to South-Westerly over the British Isles, the North Sea, and the north and west of France, light on our eastern coasts, strong to a gale in the west. Southerly gales or strong winds felt subsequently on all our western and northern coasts, and fresh breezes in the east. North-Westerly breezes moderating over the Baltic later, and Easterly, falling calm, over the Gulf of Finland.

Barometer highest, 30·2 ins. to nearly 30·4 ins., over central and southern Europe, and exceeding 30·4 ins. at Madrid; lowest, 29·4 ins. and less off our extreme north-west coasts, 29·7 ins. and less over Lapland and the White Sea, and about 29·6 ins. in a shallow depression lying near Riga. Barometer falling west and north of our Islands all day, but no definite depression advancing over the Kingdom.

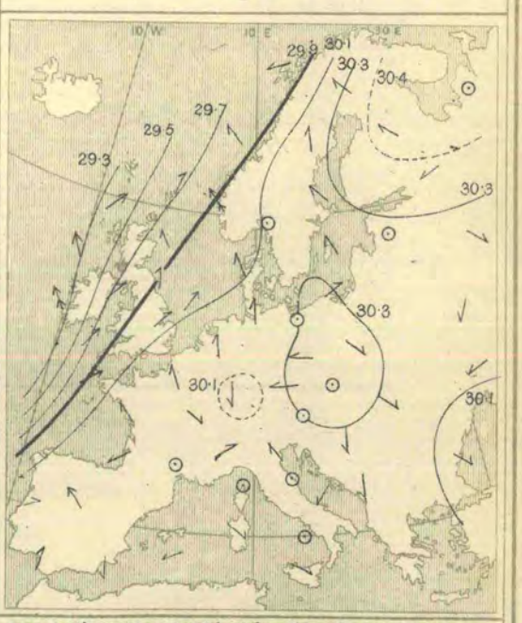
Friday, 17th January.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



6 p.m.



Weather fine generally over south-western and southern Europe, temporarily fair over the north-eastern and eastern parts of the British Islands; cloudy or overcast elsewhere, very unsettled, with showers in the west of England and at Bodö, fog in Germany and south of France, snow at Moscow and St. Petersburg. Rain later over many parts of Ireland and England (heavy in the west), and at Constantinople; thunder and lightning at several of our western stations.

Temperature lower than on 16th, but still high for time of year over British Islands and their neighbourhood. Exceeding 50° at 8 a.m. at Brindisi, Malta, Algiers, and Nemours, touching 50° at Corunna and Brest, and 47° to 49° on our extreme south-western coasts. Below freezing point over eastern and northern Europe and Switzerland, − 3° Fahr. at Archangel, + 5° at Haparanda, and 15° at Moscow (Austrian values wanting). Daily maxima falling short of 50° at most of our own stations, but exceeding 60° at several Mediterranean stations.

Wind very light and variable over south-western, central, and eastern Europe; Southerly, moderate to fresh, over the British Islands and North Sea; South-Easterly in Norway, Easterly over the Baltic, North-Easterly on the northern shores of the Mediterranean, and Westerly over Algeria. Rising to a gale from the Southward on our western and northern coasts later, and freshening considerably from same quarter over England.

Barometer above 30·2 ins. over south-western and central Europe, as well as over the Gulf of Bothnia, northern and central Russia; highest of all, 30·3 ins. and more, over eastern Germany, Austria, and Switzerland; lowest, 29·5 ins. and less off the north-west of Scotland. Gradients moderate over the United Kingdom and North Sea at first, but subsequently increasing as new depression approached Ireland.

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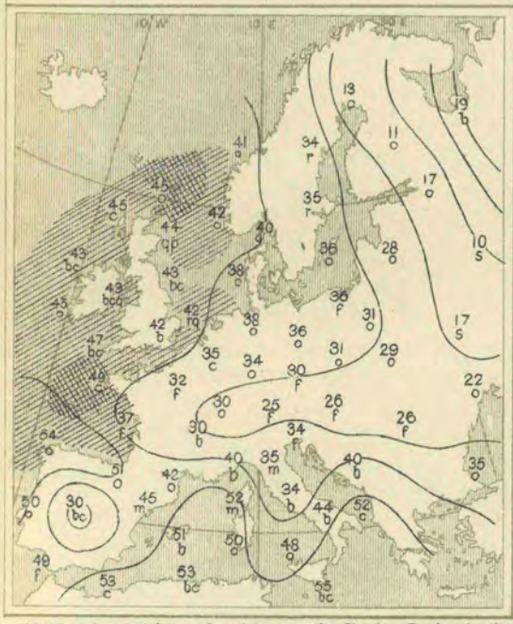
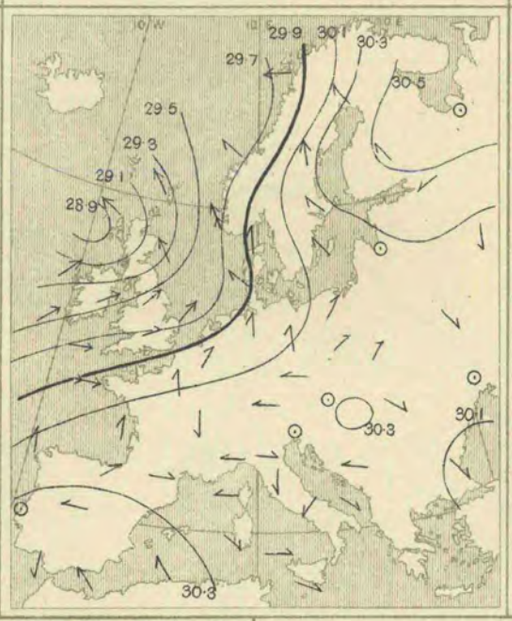
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 18th January.

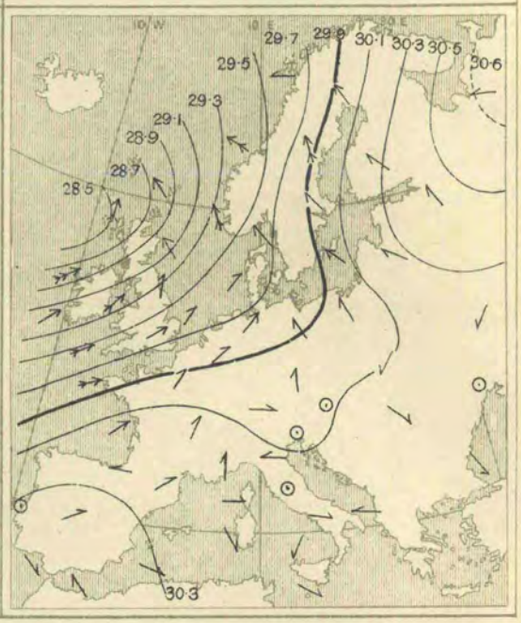
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine, bright, and quiet over the Iberian Peninsula, the Mediterranean, Adriatic, and southern Europe generally, unsettled over Russia, extremely changeable over northern and north-western Europe, and stormy in the north of the British Isles. Becoming very wild over the United Kingdom and Scandinavia later, rough and squally over the North Sea. Thunder and lightning very general over Scotland, Ireland, Wales, and the west of England at night.

Temperature falling considerably over Russia, changing fitfully over north-western Europe; exceeding 50° in morning over the south-eastern and southern parts of the Mediterranean and on the western and northern coasts of the Spanish Peninsula, below that value, but above 40°, over the British Islands; below freezing point at inland stations in eastern, south-eastern, and central Europe, − 19° Faht. at Archangel + 5° at Kharkov, 10° at Moscow, and 11° at Kuopio and Uleaborg. Rising to 50° and more at several of our stations later, and to 60° and more on the southern shores of the Mediterranean.

Wind light Easterly over southern Europe, moderate to light Westerly over France, Southerly over Germany and Denmark, South-Easterly over Scandinavia; Southerly gales in Scotland, strong and squally South-Westerly and Westerly winds in England and Ireland. Very strong Southerly and South-Westerly gales at our western and northern stations later, spreading, with less force, to the Channel and North Sea.

Barometer highest, 30·1 ins. and more, over south-western, southern, and eastern Europe, and exceeding 30·3 ins. over south of Spain; lowest, 28·9 ins. and less, in deep depression off the west of Scotland, and below 29·7 ins. off the north-west of Norway. New deep depression appearing in north-west later, uniting with older one and moving north-eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the first half of this week barometric pressure continued highest over the Bay of Biscay and south-western Europe, while depressions were found off the north of Scotland, Scandinavia, and Russia. The wind was consequently chiefly Westerly to South-Westerly over the British Islands and their neighbourhood, and occasionally blew hard in the western and northern districts. Over the Baltic it was frequently North-Westerly to Northerly, and was less strong. After Thursday, however, pressure increased greatly over Russia and became uniformly high over northern, eastern, central, and south-western Europe. At the same time large depressions advanced to the western and north-western coasts of the British Islands and Norway, bringing with them Southerly and South-Westerly gales and rain. On Saturday and Sunday the disturbances were so large, deep, and complex, that the gales spread over the whole of north-western Europe and the Baltic, and blew with great violence on the north-western coasts of the United Kingdom for many hours. Over southern Europe the weather has remained quiet.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of each Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
January 4th, 1890	Glencarron	50	29	45·2	34·5	40·0	+3·0	9	30	6	1·91	−0·13	1·2	3
„ 4th, „	Fort Augustus	—	—	—	—	—	—	—	—	—	—	—	0·4	1
„ 11th, „	Glencarron	50	28	47·2	35·5	41·5	+4·6	15	27	7	3·52	+1·29	0·3	1

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 4.] *Third Series.* WEEK ENDING SATURDAY, 25TH JANUARY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. of this Series.

Temperature of the Air.

	DISTRICTS. (See p. 20.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	50	15	41·6	31·2	36·6	1 below.	0	− 6	38	+ 3	61*	+40	84	−59
	1. SCOTLAND, EAST	52	14	41·7	30·2	36·2	0 (average)	0	− 7	41	− 3	65	+43	102	−79
	2. ENGLAND, N.E.	57	27	44·0	34·2	39·3	1 above.	6	0	30	−10	69	+48	103	−64
	3. ENGLAND, EAST	56	28	47·5	34·3	41·2	3 above.	15	+ 8	33	− 5	79	+55	125	−57
	4. MIDLAND COUNTIES	56	30	46·8	34·3	40·8	3 above.	13	+ 4	32	−12	88	+55	119	−63
	5. ENGLAND, SOUTH	56	33	49·2	37·4	43·6	4 above.	31	+22	13	−22	102	+67	68	−78
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	52	27	43·8	34·6	39·4	0 (average)	5	− 3	29	− 4	73	+42	59	−83
	7. ENGLAND, N.W.	56	30	45·3	36·2	41·0	1 above.	9	+ 1	24	− 3	78	+49	66	−77
	8. ENGLAND, S.W.	55	29	49·0	37·2	43·4	2 above.	30	+13	13	− 7	119	+58	52	−37
	9. IRELAND, NORTH	54	28	44·1	33·8	39·1	2 above.	6	− 6	31	+ 3	87	+42	64	−57
	10. IRELAND, SOUTH	56	30	46·6	35·9	41·5	0 (average)	13	− 7	26	+ 7	119	+45	37	−51
	— CHANNEL ISLANDS	55	38	51·9	42·6	47·4	3 above.	38	+18	0	−12	150	+74	20	−31

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 20.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6†	23	3 more.	24	+ 5	6·7	+ 0·5	8	15	13	−13	7	− 6
	1. SCOTLAND, EAST	5	14	7 more.	20	+ 8	4·5	+ 1·8	13	24	30	−18	15	− 9
	2. ENGLAND, N.E.	5	7	3 more.	15	+ 2	1·5	− 0·4	10	18	30	+ 2	14	+ 1
	3. ENGLAND, EAST	6	5	1 more.	17	+ 3	1·4	− 0·4	17	29	48	+ 7	22	+ 4
	4. MIDLAND COUNTIES	6	12	6 more.	19	+ 6	2·2	− 0·1	17	29	44	+12	20	+ 6
	5. ENGLAND, SOUTH	6	9	3 more.	17	+ 4	2·2	− 0·4	14	24	43	+10	19	+ 5
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	6	21	6 more.	25	+10	7·4	+ 0·6	9	17	28	− 1	13	− 1
	7. ENGLAND, N.W.	6	15	8 more.	23	+ 9	3·9	+ 0·9	8	14	29	− 3	14	− 1
	8. ENGLAND, S.W.	7	22	12 more.	23	+ 8	4·5	+ 0·4	14	23	43	+ 2	19	+ 1
	9. IRELAND, NORTH	6	13	5 more.	25	+ 8	4·6	+ 1·6	17	30	50	+ 8	23	+ 4
	10. IRELAND, SOUTH	6	19	10 more.	24	+ 8	5·6	+ 1·7	17	30	52	+ 2	24	+ 1
	— CHANNEL ISLANDS	7	19	11 more.	24	+ 8	3·6	+ 0·3	12	19	46	−10	19	− 5

General Remarks.

Weather has continued in a very rough, changeable, and rainy condition over the entire kingdom. Over Ireland, Scotland, and most parts of England the rainfall was occasionally heavy, and in a few instances was accompanied by thunder and lightning. During the intervals of comparative quiet the sky was generally clear and bright and the air pleasant.

Temperature has been rather unsteady, but has continued a little above the mean over England and in the north of Ireland, and has equalled the mean in the west and east of Scotland, and in the south of Ireland; in "Scotland N.," however, a slight deficiency is shown. The highest of the maxima, which were recorded on the 25th, ranged from 50° in "Scotland N." to 56° in most of the English districts and in "Ireland S.," and to 57° in "England N.E." On the 23rd (when the thermometer was very low over Scotland) the daily maximum at Aberdeen was as low as 28°. The lowest of the minima were registered between the 21st and 23rd, and varied from 14° in "Scotland E." and 15° in "Scotland N." to 33° in "England S.," and to 38° in the Channel Islands.

Rainfall has been more than the mean in all districts. Over southern and eastern England the excess has been somewhat trifling, but in nearly all other districts it has been large.

Bright Sunshine does not differ much from that recorded last week, the percentage of the possible amount of duration having ranged from 15 to 24 in Scotland and from 14 to 29 over England. In Ireland the percentage was 30, and in the "Channel Islands" 19.

Barometer and Wind.—During the week pressure has remained highest over the southern, lowest over the northern parts of western Europe. Large and deep depressions have continued to pass quickly in a north-easterly direction from the Atlantic. Most of the systems travelled outside our extreme western and northern coasts, but that of the 21st-22nd came directly over Scotland, while that of the 23rd travelled east-north-eastwards until it reached North Wales and then in an easterly direction across England to the North Sea. Strong winds and gales from South-West or South were felt throughout the week over England and Ireland, but in Scotland there was a very decided lull during the middle of the period, which did not give way until Friday.

* This value has been altered owing to the receipt of further information.

† The corresponding value in last week's report should read "6."

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36 350 1 | 90 607

III.—DATA from which the SUMMARY on page 19 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	48	31	43·4	36·3	40·0	+0·8	4	22	7	1·52	+0·69	*	*
	Stornoway ⚓	48	25	42·1	31·3	36·9	−2·1	0	39	5	1·75	+0·58	8·7	17
	Wick ⚓	47	25	41·0	31·6	36·5	−1·8	0	39	4	0·49	+0·04	*	*
	Lairg ⚓	50	15	40·6	26·1	33·6	−3·4	0	59	5	0·79	+0·01	*	*
	Glencarron ⚓	50	17	40·7	30·2	35·7	−1·0	0	44	7	4·84†	+2·70	?	?
	Fort Augustus ⚓	49	20	41·7	31·9	37·0	−0·8	0	35	7	4·10†	?	7·2	14
1. SCOTLAND, E.	Nairn ⚓	50	24	41·9	31·7	37·0	−0·4	0	35	5	0·53	+0·08	*	*
	Aberdeen ⚓	50	21	41·1	30·4	36·0	−1·2	0	42	3	0·64	+0·10	19·4	37
	Braemar ⚓	47	14	40·1	26·5	33·6	−0·1	0	59	5	1·66	+0·98	8·0‡	15‡
	Ochtertyre ⚓	50	24	41·6	30·0	36·0	−0·7	0	42	7	2·88	+1·63	*	*
	Leith ⚓	52	27	43·9	32·0	38·2	+0·5	5	38	6	1·57	+1·12	*	*
	Marchmont ⚓	50	25	41·4	30·7	36·3	+0·8	0	40	5	1·16	+0·51	10·5	19
2. ENGLAND, N.E.	Alnwick Castle ⚓	50	27	40·9	33·9	37·5	+0·2	0	32	4	0·39	−0·11	*	*
	Durham ⚓	52	30	43·1	32·4	38·0	+0·6	3	36	6	0·54	+0·07	15·0	27
	Shields ⚓	53	32	45·4	35·1	40·5	+2·2	10	28	3	0·34	−0·06	*	*
	Scarborough ⚓	52	31	42·8	33·7	38·4	+0·6	2	31	7	0·97	+0·55	7·9‡	14‡
	York ⚓	57	32	46·4	34·3	40·6	+2·4	12	32	7	1·15	+0·72	7·6	14
	Spurn Head ⚓	53	33	45·3	35·6	40·6	+1·9	9	26	5	0·84	?	*	*
3. ENGLAND, E.	Hillington ⚓	55	30	46·2	33·9	40·3	+3·4	12	33	6	0·57	+0·15	15·5	27
	Yarmouth ⚓	54	31	46·6	34·0	40·6	+1·9	13	33	6	0·57	+0·09	*	*
	Geldeston ⚓	55	31	47·7	35·1	41·7	+3·4	16	30	6	0·42	+0·05	18·3	32
	Cambridge ⚓	56	28	49·1	33·3	41·5	+3·8	20	38	5	0·41	+0·06	16·8	29
	Rothamsted ⚓	53	30	47·4	34·5	41·2	+3·8	15	32	6	0·50	−0·12	*	*
	Ingatestone ⚓	54	31	48·2	35·1	41·9	+3·8	17	30	6	0·49	+0·09	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ⚓	54	30	47·1	33·6	40·6	+2·0	14	35	5	1·00	+0·57	17·4‡	31‡
	Loughborough ⚓	56	34	48·0	35·7	42·1	+4·4	27	18	6	0·74	+0·26	17·3‡	30‡
	Cheadle ⚓	52	31	44·0	33·2	38·8	+2·0	6	34	6	1·23	+0·60	*	*
	Churchstoke ⚓	51	32	45·1	34·3	39·9	+1·7	9	31	7	2·30	+1·63	14·0	25
	Hereford ⚓	54	33	47·7	35·2	41·7	+3·2	16	30	7	1·16	+0·54	*	*
	Cirencester ⚓	53	30	47·3	32·0	40·0	+1·6	15	41	7	1·14	+0·37	15·5	27
	Oxford ⚓	56	33	48·4	35·9	42·4	+3·5	28	17	7	0·53	+0·01	19·7	34
5. ENGLAND, S.	London ⚓	56	33	49·9	35·9	43·2	+4·5	34	17	6	0·66	+0·16	12·2‡	20‡
	Strathfield Turgiss ⚓	54	33	48·5	35·1	42·1	+3·7	30	19	7	0·91	+0·32	*	*
	Dungeness ⚓	52	33	49·6	38·4	44·2	+4·0	31	10	6	0·60	+0·01	*	*
	Hastings (St. Leonards) ⚓	52	33	49·6	37·2	43·7	+3·8	32	13	6	0·93	+0·30	18·6	31
	Southampton ⚓	53	34	49·4	38·8	44·3	+5·1	30	9	6	1·10	+0·30	16·9	28
	Hurst Castle ⚓	52	39	50·0	41·0	45·7	+5·1	30	3	7	1·18	+0·59	*	*
	Stowell ⚓	52	33	47·7	35·7	41·9	+1·9	16	27	7	1·23	?	8·8‡	15‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	51	30	44·9	34·3	39·8	+0·6	8	30	7	3·96†	+2·04	*	*
	Glasgow ⚓	51	28	42·4	33·7	38·2	−0·2	1	30	7	2·29	+1·27	5·8	11
	Ardrossan ⚓	49	31	44·6	35·6	40·3	+0·9	7	26	5	1·01	+0·01	*	*
	Glenlee ⚓	52	27	42·7	32·4	37·8	+0·1	2	36	7	1·54	−0·27	*	*
	Douglas (Isle of Man) ⚓	51	33	44·5	37·2	41·0	+0·6	7	20	3	1·59	+0·48	12·5	22
7. ENGLAND, N.W.	Newton Reigny ⚓	50	31	42·0	34·0	38·2	+1·0	0	27	7	1·27	+0·40	7·6	14
	Stonyhurst ⚓	53	32	43·9	35·1	39·7	+1·3	5	27	7	1·53	+0·58	10·1	18
	Blackpool ⚓	53	32	46·4	36·2	41·5	+1·1	12	25	7	2·02	+1·34	8·6	15
	Manchester ⚓	54	30	44·4	34·1	39·5	+0·7	7	31	7	1·62	+0·91	*	*
	Liverpool Obsy. (Bidston) ⚓	55	33	46·6	36·3	41·7	+1·7	13	25	5	1·08	+0·59	*	*
	Llandudno ⚓	56	34	47·9	39·0	43·6	+2·0	24	8	3	1·39	+0·75	5·0	9
	Holyhead ⚓	51	34	46·0	38·9	42·6	+0·1	17	9	5	1·53	+0·75	*	*
8. ENGLAND, S.W.	Llandovery ⚓	53	29	47·4	32·1	40·1	+0·2	15	41	7	2·50	+1·25	*	*
	Pembroke ⚓	51	35	48·3	40·1	44·4	+1·8	25	5	7	2·02	+1·15	18·8	32
	Arlington (N. Devon) ⚓	53	33	47·7	35·4	41·8	+1·6	16	29	7	2·17	+1·19	*	*
	Cullompton ⚓	55	32	49·3	35·2	42·5	+1·3	32	19	7	2·47	+1·67	12·3	21
	Falmouth ⚓	53	36	49·8	39·6	44·9	+1·6	30	7	7	2·22	+0·92	14·5	24
	Plymouth ⚓	55	36	51·4	38·6	45·3	+2·7	37	10	7	2·32	+1·40	8·7	14
	Prawle Point ⚓	52	34	49·3	39·4	44·6	+2·3	29	7	7	1·80	?	*	*
9. IRELAND, N.	Malin Head ⚓	50	32	43·1	34·4	38·9	−1·3	3	28	7	1·61	?	*	*
	Londonderry ⚓	52	29	43·8	34·0	39·1	−1·8	5	31	6	1·21	+0·31	*	*
	Mullaghmore ⚓	54	33	45·0	35·7	40·5	−1·9	8	25	7	1·29	+0·47	*	*
	Belmullet ⚓	52	31	45·7	34·1	40·1	−4·6	10	32	7	2·19	?	*	*
	Markree Castle ⚓	53	29	45·0	32·8	39·1	−2·9	8	36	7	1·17	+0·39	12·9	23
	Brookeborough ⚓	52	29	43·1	32·6	38·1	−2·1	3	35	7	1·33	?	*	*
	Armagh ⚓	53	31	42·9	33·4	38·3	−1·4	3	32	5	0·63	−0·05	20·7	37
	Donaghadee ⚓	52	32	44·7	34·1	39·6	−1·0	8	31	5	0·65	−0·04	*	*
	Edgeworthstown ⚓	54	28	43·4	33·0	38·4	−0·9	4	34	7	1·21	+0·51	*	*
10. IRELAND, S.	Dublin ⚓	56	33	46·2	36·0	41·3	+0·5	12	25	6	0·98	+0·49	23·4	41
	Parsonstown ⚓	55	32	44·0	33·6	39·0	−1·1	6	32	7	1·66	+0·96	13·9	24
	Kilkenny ⚓	54	30	45·4	33·0	39·5	−0·1	10	36	6	1·01	+0·20	*	*
	Waterford ⚓	53	32	46·4	35·7	41·3	−0·1	12	27	4	2·40	+1·30	*	*
	Roche's Point ⚓	53	35	47·9	38·1	43·2	+0·3	25	11	6	2·86	+1·58	*	*
	Valencia ⚓	55	35	48·7	38·0	44·1	−1·1	32	11	7	1·78	+0·28	13·7	24
	Killarney ⚓	55	35	47·9	36·4	42·4	−1·0	26	16	7	2·43	?	*	*
	Foynes ⚓	55	33	45·4	36·3	41·0	−0·4	10	23	7	2·45	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ⚓	54	38	51·4	42·3	47·0	+0·8	35	0	7	1·75	+0·89	*	*
	Jersey ⚓	55	40	52·4	42·9	47·8	+5·6	41	0	7	2·06	+1·36	11·5	19

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

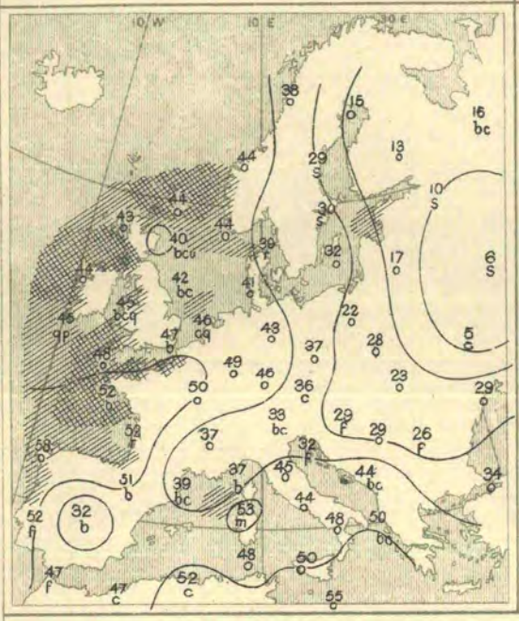
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

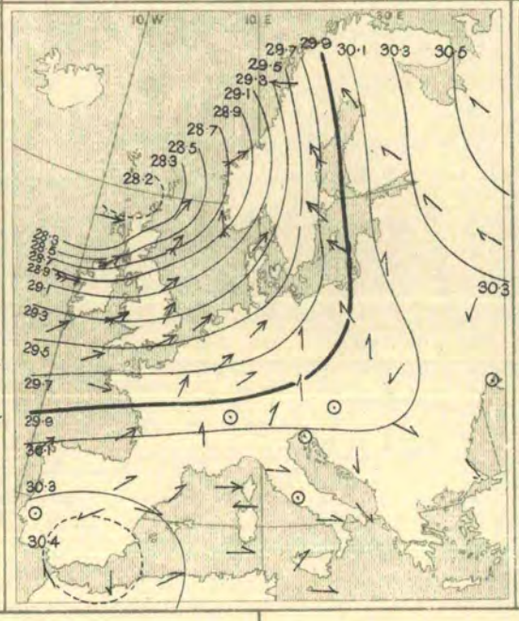
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 19th January.

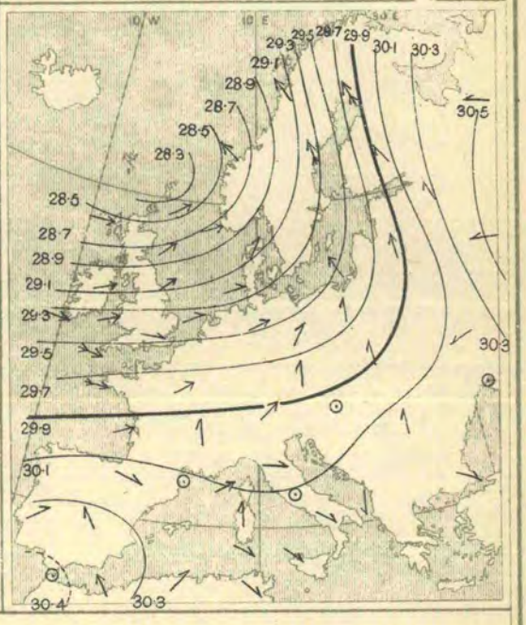
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Spain, Algeria, and the Adriatic, also in extreme north of Russia; very rough, squally, and showery over the whole of north-western Europe and the Baltic, with snow in several parts of the latter region; rain and hail showers in many parts of the United Kingdom later and lightning in places; some showers over southern Europe also.

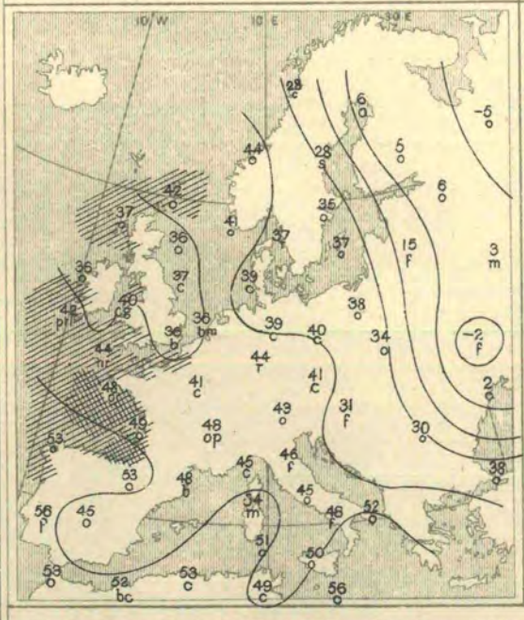
Temperature rising decidedly over Germany and France, less quickly over southern Europe, but beginning to give way over the British Islands. Exceeding 50° in the morning over the south-east of Italy and at Algiers, as well as over the western parts of France and Spain; but below 50° over the United Kingdom generally, and below the freezing point over north-eastern, eastern, and south-eastern Europe; lowest values of all, 5° Faht. at Kiev, 6° at Moscow, 10° at St. Petersburg, and less than 20° over nearly the whole of Russia and Finland. Daily maxima exceeding 60° in the south of France, the south of Italy, and Algeria, and 50° in some parts of Ireland and England; much colder at night.

Wind blowing hard from between South-South-West and West-South-West over the British Isles (unusually hard in the north and north-west), strong to a gale from the Southward over the North Sea, and from South-East over the Baltic and north of Scandinavia. Light and variable breezes prevalent over south-western, southern, and south-eastern Europe; South-Westerly gales moderating subsequently over the British Islands generally, but not decreasing much in the Channel, and South-Easterly gale increasing in force over Baltic and northern Europe.

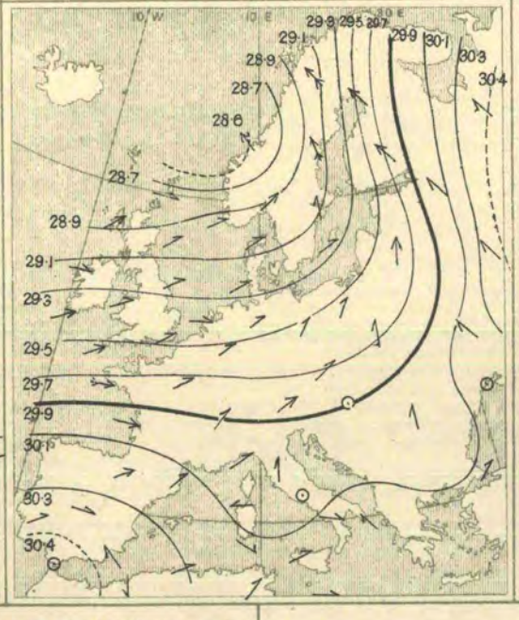
Barometer above 30·0 ins. over all the southern and eastern parts of Europe; exceeding 30·4 ins. over the south of Spain and 30·5 ins. over the north-east of Russia; lowest, 28·3 ins. and less, in a large complex depression lying off our north-west coasts. Gradients steep over British Isles and Norway. Depression moving northwards later, and barometer rising in the United Kingdom—most in Scotland, but falling very fast over northern Europe.

Monday, 20th January.

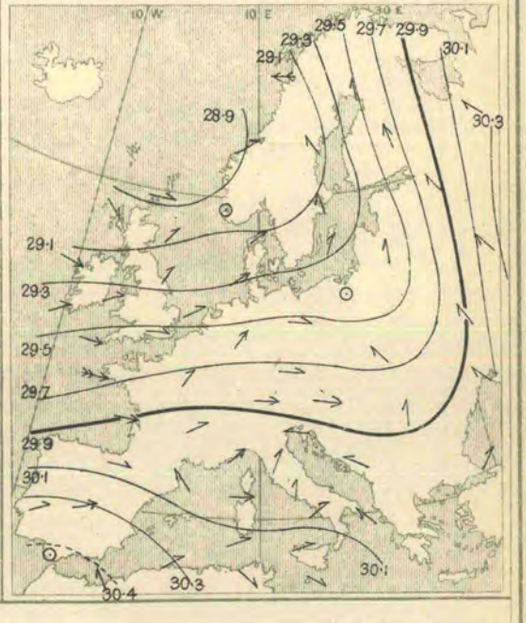
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over Spain and Algeria, changeable and unsettled in almost all other districts; rain in several parts of France, hail, thunder, and lightning on our south-west coasts; rain or hail general in the United Kingdom later, except over the eastern parts of Great Britain, heaviest in the north-west of Ireland; local falls in many parts of Germany and on the Baltic coasts. Thunder and lightning at several French and Irish stations.

Temperature fallen considerably British Islands and north of France, risen southern and central Europe. Exceeding 50° on the Spanish coasts and at several Mediterranean stations, much lower over north-western Europe; highest in our Islands, 44° at Scilly; below the freezing point over Austria, Poland, Russia, and Finland; lowest values, −5° Faht. at Archangel, −2° at Kiev, 0 (zero) at Kharkov, and below 10° at Odessa, Nicolaieff, Moscow, St. Petersburg, Knopio, Uleaborg, and Haparanda. Exceeding 60° in south of France, Sicily, and Algeria during day, but falling short of 50° over the United Kingdom and below 40° at many of our northern stations.

Wind Westerly and South-Westerly over the whole of western and central Europe, strong over the south of England and north of France, moderate generally elsewhere. Southerly fresh over the Baltic, and South-Easterly gales over Finland and the north of Scandinavia. Light and variable breezes over southern, south-eastern, and eastern Europe. Little change over the United Kingdom later, except in north Ireland, where wind backed. Gale over northern Europe dying down.

Barometer highest, 30·2 ins. to 30·4 ins. and more, both over Spain and Russia; lowest, 28·6 ins. and less, in a depression off the west of Norway. Local disturbances over the Gulf of Genoa and the Caucasus. No important change later.

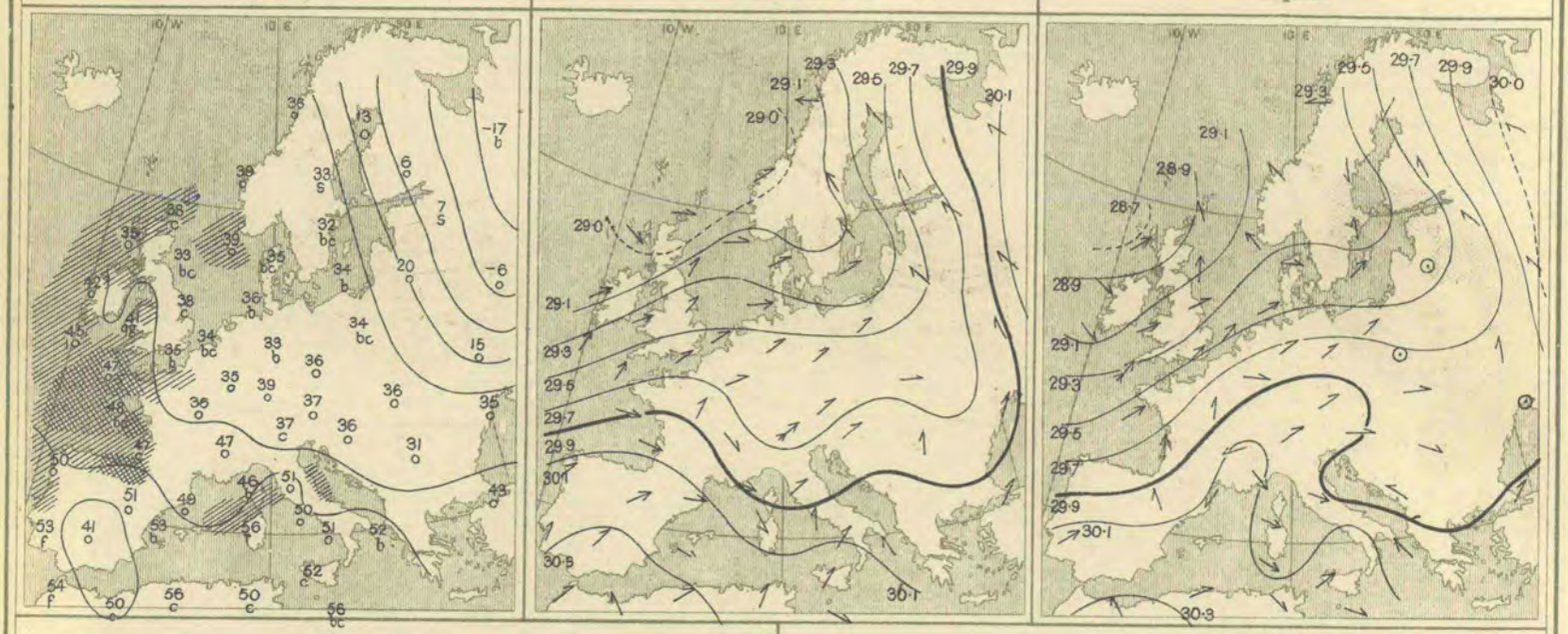
Judd & Co Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 21st January.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather, though fine in several localities, unsettled over Europe generally, but especially over the British Islands and their neighbourhood; showers of rain and hail at some of our western stations, snow at Hernösand and St. Petersburg, rain at Pesaro. Rain, hail, or sleet showers very general later—heavy in Ireland (where also thunder and lightning occurred) and in the west of France.

Temperature risen rapidly over southern Russia, moderately over Austria and the Mediterranean, as well as over the Baltic Provinces and Finland; changed irregularly elsewhere. Above 50° in the extreme south only, below 40° in many parts of our Islands and over central Europe, but below 32° over Russia, Finland, and Lapland only; lowest, −17° Faht. at Archangel, −6° at Moscow, + 5° at Kharkov, + 7° at St. Petersburg. Daily maxima, below 50° Ireland and England, exceeding 69° at several Mediterranean stations.

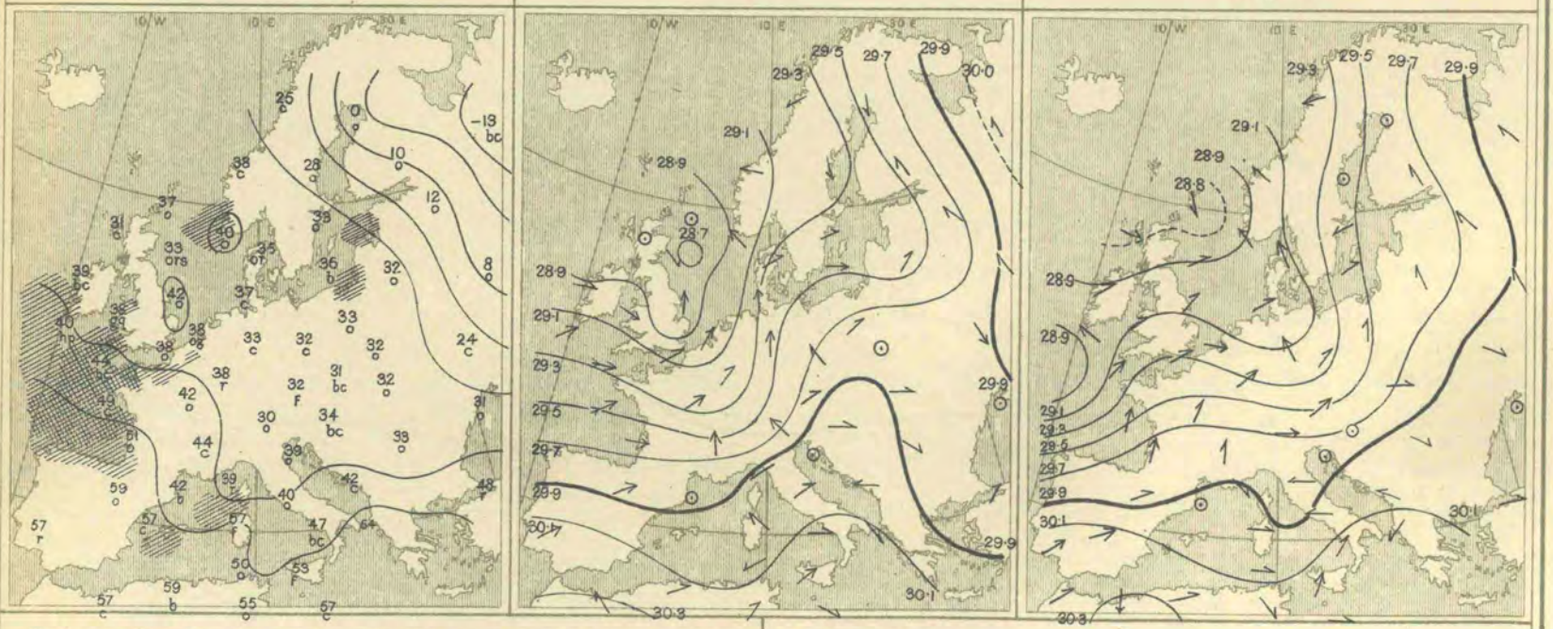
Wind fresh to strong from West and North-West in France, moderate South-Westerly over Germany and the greater part of England, South-Easterly over Finland and Sweden, strong from between South-West and South on our western coasts, and from West in the Channel. Fresh gales from the South-Westward over the Irish and English Channels and in the south-east of England later.

Barometer highest, 30·1 ins. to nearly 30·4 ins., over Spain, 30·0 ins. to 30·2 ins. and more over Russia; lowest, 29·0 ins. and less, off the west of Norway and north of Scotland, and somewhat low in a large hollow spreading thence across Sweden, Denmark, and the Baltic to central Europe. New complex depressions approaching Scotland and our western coasts later from the Atlantic.

Wednesday, 22nd January.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather very changeable and unsettled over the whole of north-western and northern Europe, clear in some localities, cloudy or overcast as a whole, with showers of snow and sleet in Scotland, hail or rain in various parts of Ireland, England, and the north of France, rain in the Riviera; fair over Austria and south Germany. Remaining very unsettled over the United Kingdom during day; much rain over Ireland, France, and Belgium, and smaller quantities over England later; thunder and lightning locally.

Temperature risen fast over Russia, changed irregularly elsewhere; ranging from 50° to 59° over Spain and the Mediterranean, 51° at Rochefort, 49° at Brest; below 40° over western Germany and many parts of the British Isles, and below the freezing point over Russia, Finland, Lapland, and southern Germany. Lowest readings of all, −13° Faht. at Archangel, 0 (zero) at Haparanda, + 8° at Moscow, 10° at Kuopio, and 12° at Uleaborg and St. Petersburg. Continuing to change very irregularly over north-western Europe during day, and rising to 63° at Biarritz and Sanguinaire, 66° at Palermo, and 70° at Algiers and La Calle.

Wind light and variable over south-eastern Europe, moderate and variable over the Mediterranean; local cyclonic circulation over south of France; strong to a gale from the Westward over the Bay of Biscay and southern half of our Island, Southerly fresh to a gale over the North Sea, South-Easterly over Russia and northern Europe; Westerly gales subsiding during morning, and wind backing to South and South-East subsequently on our south-western coasts, but Southerly winds increasing over Denmark and western parts of north Germany.

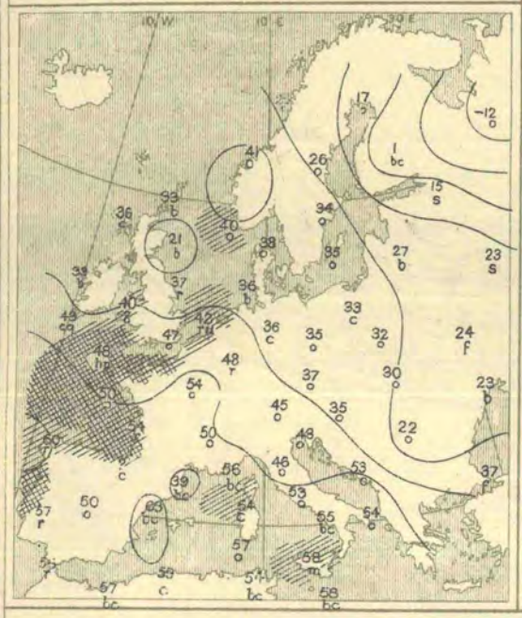
Barometer highest, 29·8 ins. to 30·2 ins. and more, over Spain and the Mediterranean, 29·8 ins. to 30·0 ins. and more over Russia; lowest, 28·8 ins. and less, in a complex depression over the north of our Islands. Gradients steep over western Europe. Mercury, after rising quickly during day, beginning to fall fast again in the south-west of the British Islands at night, owing to advance of new deep depression towards the south of Ireland and the mouth of St. George's Channel.

Judd & Cº Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

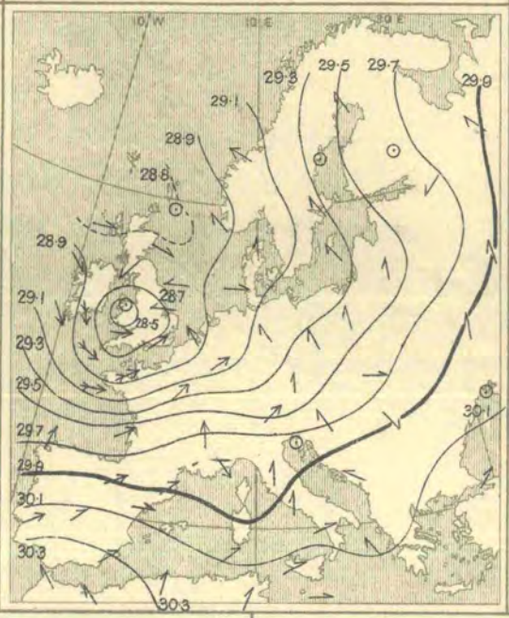
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 23rd January.

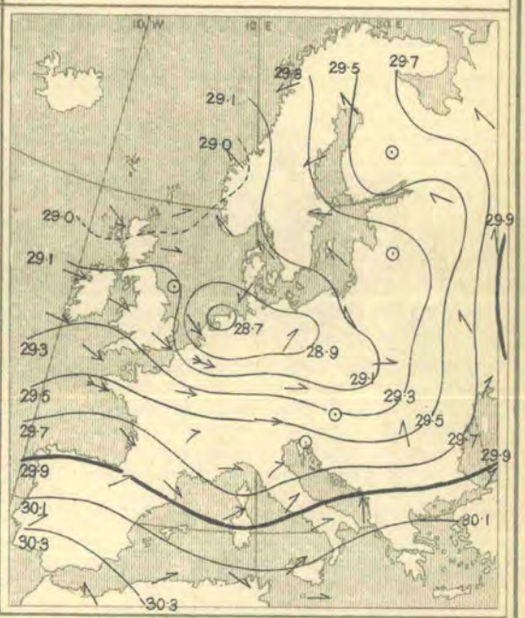
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy and unsettled in all but the south-eastern parts of Europe, extremely rough, squally, and showery over France, the Bay of Biscay, Ireland, and England, dull over the Baltic and Germany, very fine in Scotland and the north of Ireland. Squally and showery over Ireland and England later; heavy rain in west of France, thunder and lightning in south of England, and becoming very rough over Holland and Germany, but continuing fine at the Scotch stations.

Temperature risen quickly France, fallen fast Scotland, Hungary, and south of Russia. Above 50° over Mediterranean, Spain, and France, and as high as 58° at Palermo and Malta, 59° at Algiers, 60° at Corunna, and 63° at Barcelona. Below the freezing point over Hungary, Russia, and northern Europe as well as in Scotland; lowest readings being −12° at Archangel, +1° at Kuoplo, 14° at Kharkov, 17° at Haparanda and Hangö, and 21° at Aberdeen. Very unsteady during day, falling fast over England at night, but less low in Scotland than in morning. Frost giving way over Austria-Hungary.

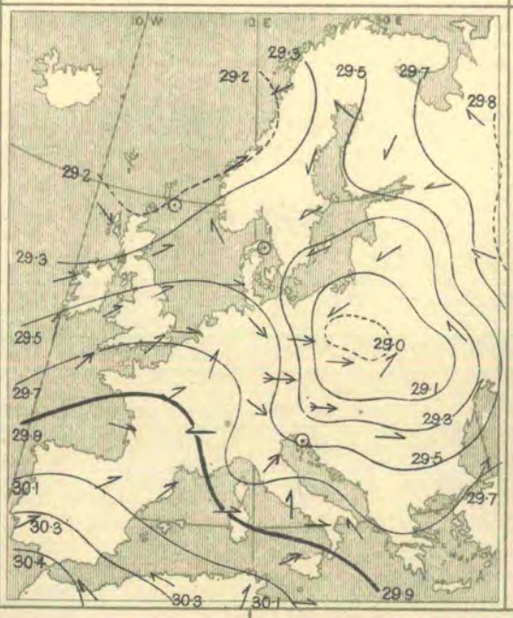
Wind very light and variable over south-eastern Europe, South-Easterly in the north. Complex cyclonic circulation over western Europe, causing strong gales from South-West to West-North-West over France, Bay of Biscay, English Channel, and south of Ireland, Westerly gale spreading to the Netherlands and Germany later, while South-Easterly winds set in over Baltic; gales dying down over France and British Isles, and wind beginning to "back" again at the Irish stations.

Barometer highest, 29·8 ins. to 30·3 ins. and more, over south-western Europe and the Mediterranean, and 29·8 ins. to 30·1 ins. over south-eastern and eastern Europe; lowest, 28·5 ins. and less, in deep depression over north Wales and Cardigan Bay; 28·8 ins. and less, in another (filling up) off the north-east of Scotland. The deeper depression travelling quickly to eastward later, and barometer rising very rapidly in its rear. At Valencia it rose 0·54 ins. between 4 a.m. and 8 a.m. on Thursday.

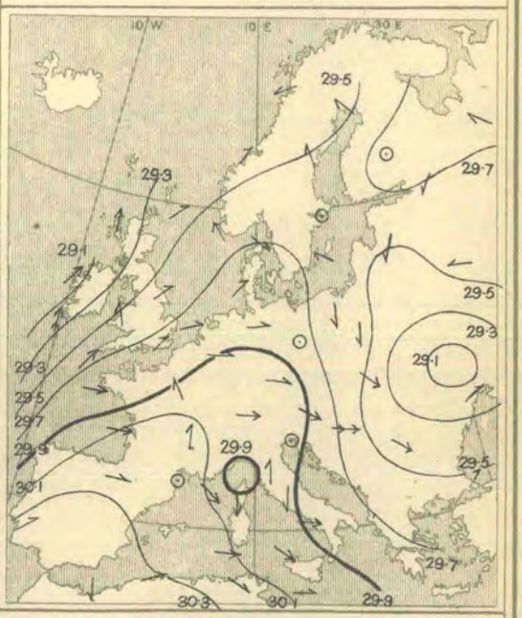
Friday, 24th January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather showing some temporary improvement over the United Kingdom generally, but not settled; very rough and stormy over central Europe, with rain in many places, snow in several parts of Russia, fog at St. Petersburg. Fair weather prevalent over south-western Europe and Algeria only. Rain falling subsequently over the United Kingdom, but not in large quantity, and weather becoming squally again on our western and southern coasts; improving over central Europe.

Temperature risen considerably in Scotland and Ireland, as well as in Austria-Hungary and the south of Russia, fallen fast over France and the south-east of England; morning readings above 50° over the Mediterranean and Spain, 60° at Palermo; between 40° and 50° on our own south-west coasts and in Austria, lower elsewhere; lowest actual readings, −1° Faht. at Kuopio, +1° at Archangel, 7° at Moscow, 10° at Haparanda. Rising quickly over England and France later, but falling fast over central Europe towards night.

Wind very variable; large cyclonic circulation prevailing over central Europe, causing Westerly gales over Germany and Austria, South-Easterly winds over Russia, and Easterly over the Baltic. Westerly gales observed over British Islands and France on Thursday, all subsided, and wind back to South-West again over United Kingdom—to South at Valencia. Southerly gales again setting in over Ireland later.

Barometer highest, 30·4 ins. to 30·0 ins., over Spain and the south-west of France, and exceeding 29·8 ins. over the north-east of Russia. Lowest, about 28·9 ins. in a depression over Eastern Prussia and Poland; 29·2 ins. and less off the north-west of Scotland and west of Norway. Rising in east later, as the German depression moved east-south-eastwards to Russia; fresh decided fall commencing on our western coasts.

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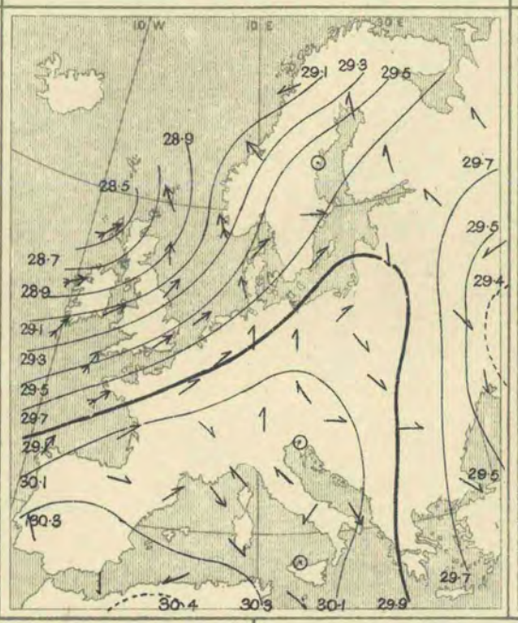
II.—SUMMARY OF WEATHER OVER EUROPE.

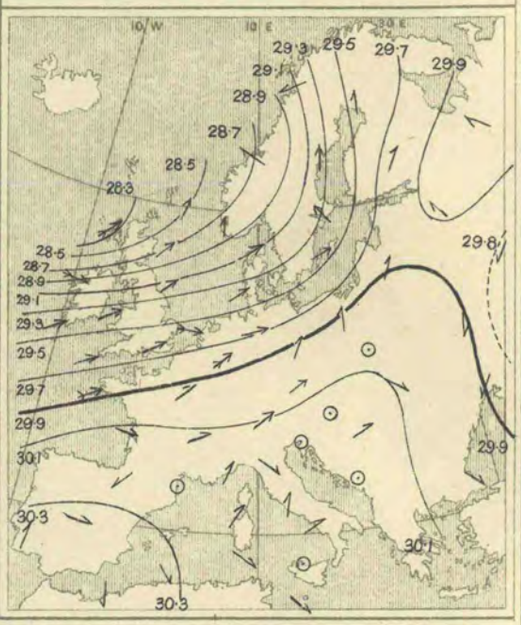
Saturday, 25th January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright at the Algerian and most of the other Mediterranean stations, as well as in Sweden, dull and unsettled elsewhere, especially over the British Islands and their neighbourhood, where squalls and showers prevailed; snow falling at Archangel and Moscow. Rain over all but the south-eastern parts of Europe and the Mediterranean coasts later—amounts not large.

Temperature risen rapidly over western and north-western Europe, fallen over the central and eastern countries; morning readings, above 50° at most Irish, English, and French stations, as well as on Mediterranean coasts; below freezing point over Lapland, Sweden, the Baltic, Russia and Poland, and as low as 6° Faht. at St. Petersburg, 10° at Moscow, 11° at Archangel, and 14° at Hermörand. Touching 70° at some Algerian stations later, and 65° to 68° on many other parts of Mediterranean shores; rising to 57° at York, 56° at Oxford, Cambridge and in London. Warm air spreading eastwards later; sharp frost over northern Russia.

Wind very variable over Mediterranean and southern Europe, North-Westerly over Austria and southern Russia, light and variable over northern Russia. Southerly and South-Westerly gales and strong winds over British Islands and their neighbourhood, and Southerly to South-Easterly breezes on eastern shores of North Sea. Gales over United Kingdom, becoming stronger and more general later.

Barometer highest, 30·1 ins. and more, over the whole of southern and south-western Europe, and exceeding 30·3 ins. over south of Spain; lowest, 28·5 ins. and less to north-westward of Hebrides, near the centre of a large depression moving north-eastwards. Depression in north-west growing still deeper later (minimum readings, 28·3 ins. and less)—gradient very steep off west of Scotland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week pressure has been continuously high over the southern half of Europe, lowest in the north, and there has been a constant succession of large and deep depressions, advancing over the north-western districts from the south-westward and westward, causing severe South-Westerly to Westerly gales on all exposed coasts, accompanied by unusually high seas at our western and southern stations.

The first depression reached our north-west coasts early on Sunday; it was very large and deep. Minimum readings 28·3 ins. and less at our northern stations at 6 p.m.

The second advanced over Scotland on Tuesday night; it was a complex disturbance, and was somewhat deep. Minimum readings about 28·7 ins. at 8 a.m. on Wednesday.

The third came in quickly from the west-south-westward and travelled directly across England on Thursday, the 23rd. Its central area was small, but the system was deep (minimum readings 28·5 ins. and less) and its gales were confined to France and the southern half of the British Isles at first, but afterwards spread to Germany.

The fourth reached our north-western coasts on Saturday, and was a very large and deep system. Minimum readings recorded were 28·7 ins. and less on our north-western coasts, but it was evident that much lower values prevailed over the Atlantic in that region.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 5.] *Third Series.* WEEK ENDING SATURDAY, 1ST FEBRUARY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. of this Series.

Temperature of the Air.

	DISTRICTS. (See p. 26.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	52	27	45·0	35·7	40·5	2 above.	8	+ 2	25	− 7	69	+41	109	− 61
	1. SCOTLAND, EAST	57	28	46·3	35·5	41·1	4 above.	12	+ 4	27	−13	77	+47	129	− 85
	2. ENGLAND, N.E.	57	30	46·1	37·3	41·8	3 above.	11	+ 3	20	−16	80	+52	123	− 79
	3. ENGLAND, EAST	54	31	45·6	36·0	41·0	2 above.	10	0	25	−12	89	+55	150	− 70
	4. MIDLAND COUNTIES	55	26	46·5	36·1	41·5	3 above.	13	+ 2	25	−13	101	+58	144	− 75
	5. ENGLAND, SOUTH	55	30	48·6	38·7	43·9	4 above.	27	+16	9	−21	129	+84	77	−100
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	54	27	46·8	38·2	42·7	4 above.	21	+11	11	−15	94	+55	70	− 96
	7. ENGLAND, N.W.	52	29	45·7	38·2	42·1	2 above.	17	+ 8	11	−16	95	+57	77	− 94
	8. ENGLAND, S.W.	56	26	48·6	39·2	44·1	2 above.	26	+ 7	8	− 7	145	+68	60	− 47
	9. IRELAND, NORTH	54	24	45·8	37·4	41.8	1 above.	11	− 2	20	− 5	98	+40	84	− 59
	10. IRELAND, SOUTH	55	24	48·0	37·0	42·7	1 above.	26	+ 6	14	− 2	145	+51	51	− 52
	— CHANNEL ISLANDS	54	40	50·5	44·3	47·5	3 above.	39	+18	0	− 8	189	+92	20	− 38

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 26.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	15	0 (average.)	30	+ 6	8·2	+ 0·4		13	20	−15	8	− 6
	1. SCOTLAND, EAST	4	3	4 less.	24	+ 8	4·8	+ 1·5	15	26	45	−15	18	− 5
	2. ENGLAND, N.E.	5	5	0 (average.)	20	+ 3	2·0	− 0·4	18	31	48	+13	18	+ 5
	3. ENGLAND, EAST	6	10	6 more.	23	+ 5	2·4	+ 0·1	5	25	63	+ 9	22	+ 3
	4. MIDLAND COUNTIES	4	10	4 more.	23	+ 7	3·2	+ 0·3	13	22	57	+14	20	+ 5
	5. ENGLAND, SOUTH	6	9	3 more.	23	+ 7	3·1	− 0·1	10	16	53	+ 9	18	+ 3
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	6	11	3 less.	31	+11	8·5	+ 0·4	9	15	37	+ 2	14	+ 1
	7. ENGLAND, N.W.	7	10	3 more.	30	+12	4·9	+ 1·2	9	15	38	− 2	14	0
	8. ENGLAND, S.W.	5	13	3 more.	28	+ 9	5·8	+ 0·7	9	14	52	− 3	18	− 1
	9. IRELAND, NORTH	5	5	2 less.	30	+ 8	5·1	+ 1·3	9	16	59	+ 7	22	+ 3
	10. IRELAND, SOUTH	5	13	3 more.	29	+ 8	6·9	+ 2·1	10	17	62	− 1	22	0
	— CHANNEL ISLANDS	5	9	2 more.	29	+ 9	4·5	+ 0·4	15	23	61	−15	20	− 5

General Remarks.

Weather was very rough, squally, and wet at the commencement of the period, but subsequently became much quieter than of late, although it remained unsettled and dull generally, with rain at frequent intervals. At some of our more northern stations slight falls of snow were experienced.

Temperature has been above the mean in all districts, the excess having ranged from 1° in Ireland and 2° in "Scotland N.," "England E.," and over the western parts of England, to 4° in the west and east of Scotland and in "England S." The highest of the maxima were recorded on somewhat irregular dates, and ranged from 52° in "Scotland N." and "England N.W." to 57° in "Scotland E." and "England N.E." The lowest of the minima, which were registered either on the 29th or 30th, varied from 24° in Ireland to 30° in "England N.E." and "England S.," and to 40° in the "Channel Islands."

Rainfall has been less than the mean in the eastern and western parts of Scotland and in "Ireland N.," and about equal to it in "Scotland N." and "England N.E."; in all other districts an excess is shown.

Bright Sunshine has been less prevalent, as a whole, than it was last week, the percentage of the possible amount of duration having ranged from 13 to 26 in the Scotch districts, from 16 to 17 in Ireland, and from 14 to 31 over England.

Barometer and Wind.—At the commencement of the week a deep depression lay off the west of Norway, and Westerly gales were blowing in all parts of our Islands. This disturbance was succeeded by a very brisk increase of pressure in the north, while over our southern counties a complex cyclonic system moved east-south-eastwards from the Atlantic. By the 29th this also had disappeared and the wind on our coasts had shifted to the Northward or North-Westward. Towards the end of the week the barometer became highest in the south-west and south, the wind shifted to the Westward or South-Westward, and a very shallow depression passed south-eastwards over our northern coasts and the North Sea.

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III. DATA from which the SUMMARY on page 25 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℱ	49	29	44·0	36·4	40·4	+1·2	6	22	7	0·97	+0·15	*	*
	Stornoway	51	31	45·9	37·7	42 0	+2·9	11	12	7	0·74	—0·39	9·3	17
	Wick	52	30	45·0	35·3	40·3	+1·7	8	27	6	0·65	+0·17	*	*
	Lairg ℱ	51	27	44·9	33·9	39·6	+2·5	8	25	6	1·00	+0·22	*	*
	Glencarron ℱ	50	29	44·5	35·5	40·2	+3·2	7	26	7	4·57†	+2·57	?	?
	Fort Augustus ℱ	52	30	45·5	35·4	40·7	+2·7	10	27	5	1·04†	?	4·9	9
1. SCOTLAND, E.	Nairn	53	32	47·3	37·1	42·4	+4·3	23	14	4	0·43	+0·01	*	*
	Aberdeen	54	32	46·0	36·0	41·2	+3·6	11	25	3	0·35	—0·24	20·2	36
	Braemar ℱ	51	28	43·2	33·3	38·5	+4·6	3	33	5	0·41	—0·31	10·7‡	19‡
	Ochtertyre ℱ	57	28	47·6	33·9	41·0	+4·0	16	34	4	0·11	—1·13	*	*
	Leith	54	30	48·0	36·1	42·3	+4·1	27	17	4	0·20	—0·23	*	*
	Marchmont ℱ	53	30	45·7	36·3	41·2	+5·3	10	24	5	0·45	—0·20	13·0	23
2. ENGLAND, N.E.	Alnwick Castle	54	32	45·7	36·9	41·5	+3·4	10	22	3	0·39	—0·14	*	*
	Durham	57	30	46·3	37·0	41·8	+3·6	12	22	5	0·38	—0 08	17·7	31
	Shields	54	31	47·3	37·3	42 5	+3·9	23	13	6	0·47	+0·07	*	*
	Scarborough ℱ	52	33	46·2	37·7	42·1	+3·9	19	12	5	0·45	+0·02	19·8‡	33‡
	York	54	30	46·7	37·0	42·0	+3·6	13	14	5	0·53	+0·08	17·7	30
	Spurn Head	49	33	44·4	37·6	41·1	+2·1	7	18	5	0·57	?	*	*
3. ENGLAND, E.	Hillington ℱ	50	31	44·9	36·4	40·8	+3·2	8	23	6	1·42	+0·99	13·4	22
	Yarmouth	46	31	43·6	35·6	39·8	+0·6	4	25	7	1·02	+0·53	*	*
	Geldeston	52	31	45·6	36·2	41·1	+1·9	10	24	6	0·93	+0·55	14·4	24
	Cambridge	54	31	47·3	35·1	41·4	+3·0	15	29	6	0·81	+0·45	16·8	28
	Rothamsted	?	?	?	?	?	?	?	?	6	0·93	+0·32	*	*
	Ingatestone	51	32	46·4	36·9	41·8	+3·4	12	22	7	0·88	+0·48	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	55	30	47·6	36·1	42·1	+2·9	25	17	6	1·04	+0·62	16·3‡	27‡
	Loughborough	52	30	46·9	36·7	42·0	+3·8	14	15	5	1·03	+0·54	15·9	27‡
	Cheadle ℱ	49	28	44·9	35·8	40·5	+2·9	8	25	7	1·36	+0·71	*	*
	Churchstoke ℱ	54	26	46·9	35·1	41·2	+2·0	14	29	3	1·39	+0·71	12·4	21
	Hereford ℱ	54	31	47·3	36·7	42·2	+2·8	24	15	4	0·56	—0·05	*	*
	Cirencester	51	31	45·6	35·1	40·6	+1·7	10	28	2	0·85	+0·11	8·7	14
	Oxford	52	33	46·4	37·4	42·1	+2·7	20	13	4	0·68	+0·17	13·4	22
5. ENGLAND, S.	London	52	32	48·9	38·4	43·9	+4·5	28	10	7	0·58	+0·09	8·7‡	14‡
	Strathfield Turgiss ℱ	52	33	49·2	37·3	43·5	+4·3	30	13	7	0·96	+0·38	*	*
	Dungeness	51	30	46·7	38·4	42·7	+2·2	20	10	6	0·80	+0·23	*	*
	Hastings (St. Leonards)	50	33	47·6	38·5	43·2	+2·8	23	10	7	1·41	+0·81	12·9	21
	Southampton	55	33	50·4	39·6	45·2	+5·8	32	7	5	0·82	+0·04	11·9	19
	Hurst Castle	52	34	49·6	40·4	45·2	+4·0	29	4	3	0·92	+0·25	*	*
	Stowell ℱ	52	33	48·1	38·3	43·4	+3·0	25	10	4	0·87	?	6·1‡	10‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	53	31	48·0	37·7	43·1	+3·7	26	12	7	2·72†	+0·73	*	*
	Glasgow	51	32	45·3	38·2	41·9	+3·2	9	17	5	0·47	—0·53	5·9	10
	Ardrossan	50	32	46·7	39·3	43·2	+3·6	20	8	4	0·55	—0·40	*	*
	Glenlee ℱ	54	27	47·4	36·7	42·3	+4·4	24	15	6	0·81	—0·88	*	*
	Douglas (Isle of Man)	52	33	46·5	39·3	43·0	+2·4	18	8	6	1·03	—0·02	12·2	20
7. ENGLAND, N.W.	Newton Reigny	50	29	44·5	36·0	40·4	+2·8	7	24	7	0·75	—0·10	12·4	21
	Stonyhurst	48	29	44·4	37·2	40·9	+1·9	7	19	7	1·52	+0·57	8·9	15
	Blackpool ℱ	51	32	45·8	37·5	41·8	+1·0	11	19	7	0·93	+0 27	8·0	13
	Manchester	50	30	45·3	37·5	41·6	+2·4	9	19	7	1·23	+0·54	*	*
	Liverpool Obsy. (Bidston)	50	32	46·1	38·9	42·6	+2·2	17	9	6	0·86	+0·38	*	*
	Llandudno ℱ	49	33	46·7	39·7	43·3	+1·3	19	6	7	1·32	+0·69	5·3	9
	Holyhead	52	34	47·4	40·6	44·1	+1·3	21	4	6	0·57	—0·18	*	*
8. ENGLAND, S.W.	Llandovery	51	26	45·4	35·0	40·4	0·0	10	28	7	1·87	+0·66	*	*
	Pembroke	51	34	48·6	40·3	44·6	+1·6	25	5	3	0·68	—0·17	11·8	19
	Arlington (N. Devon)	49	28	47·1	36·3	41·9	+1·5	14	25	5	1·65	+0·60	*	*
	Cullompton ℱ	56	33	50·2	39·5	45·1	+3·9	32	7	4	0·70	—0·11	8·6	14
	Falmouth	52	38	49·5	42·9	46·3	+2·7	30	0	6	1·85	+0·58	7·6	12
	Plymouth	53	34	50·1	40·6	45·5	+2·4	30	4	4	1·32	+0·43	7·4	12
	Prawle Point	52	33	49·3	40·0	44·8	+2·1	28	6	4	1·06	?	*	*
9. IRELAND, N.	Malin Head	49	37	45·4	40·6	43·1	+2·7	14	4	5	0·27	?	*	*
	Londonderry	51	32	46·5	37·8	42·3	+1·4	20	12	5	0 48	—0·40	*	*
	Mullaghmore	50	34	46·3	38·7	42·7	+0·6	19	9	6	0·49	—0·35	*	*
	Belmullet	52	32	47·0	40·0	43·6	—0·7	20	6	6	0·69	?	*	*
	Markree Castle	54	24	46·5	35·4	41·2	—0·3	13	28	4	0·48	—0·27	8·8	15
	Brookeborough	49	24	44·5	35·0	39·9	—0·2	7	27	5	0 72	?	*	*
	Armagh	51	29	45·5	36·7	41·3	+1·3	10	22	5	0·48	—0·18	10·0	17
	Donaghadee	54	34	46·3	37·9	42·3	+1·6	19	11	5	0 27	—0·41	*	*
	Edgeworthstown	51	26	44·6	34·7	39·9	+0·2	7	29	6	0·74	+0·05	*	*
10. IRELAND, S.	Dublin	53	31	47·4	38·6	43·2	+2·1	23	10	4	1·20	+0·69	10·8	18
	Parsonstown	51	26	47·1	34·1	40·9	+0·7	14	33	6	1·21	+0·52	6·5	11
	Kilkenny	53	26	46·4	34·4	40·6	+0·6	12	31	4	1·10	+0·31	*	*
	Waterford	52	29	47·1	36·6	42·1	—0·1	23	15	3	0·95	—0·15	*	*
	Roche's Point	52	32	48·6	38·6	43·8	+0·5	27	10	3	1·20	—0·08	*	*
	Valencia	53	30	49·3	38·9	44·3	—1·0	29	9	6	1·19	—0·32	13·6	22
	Killarney	55	24	50·1	37·2	43·9	+0·4	33	13	4	2·24	?	*	*
	Foynes	53	29	48·2	37·6	43·1	+1·7	26	12	6	1·49	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	52	43	50·3	44·7	47·6	+1·4	39	0	5	0·90	+0·09	*	*
	Jersey	54	40	50·6	43·9	47·4	+5·2	38	0	4	0·97	+0·27	14·8	23

Stations marked ℱ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

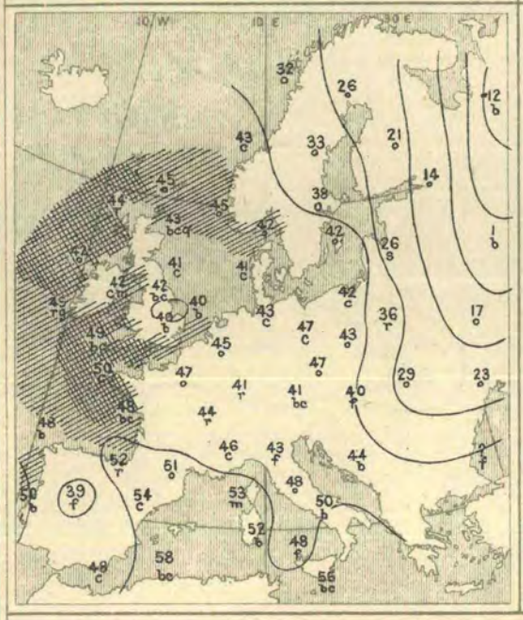
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

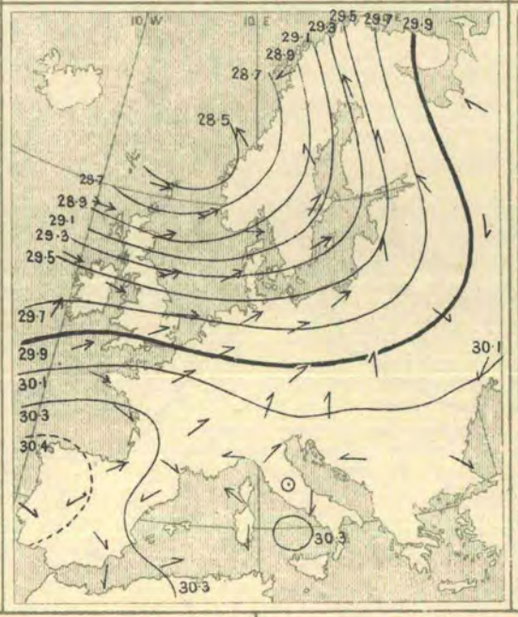
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 26th January.

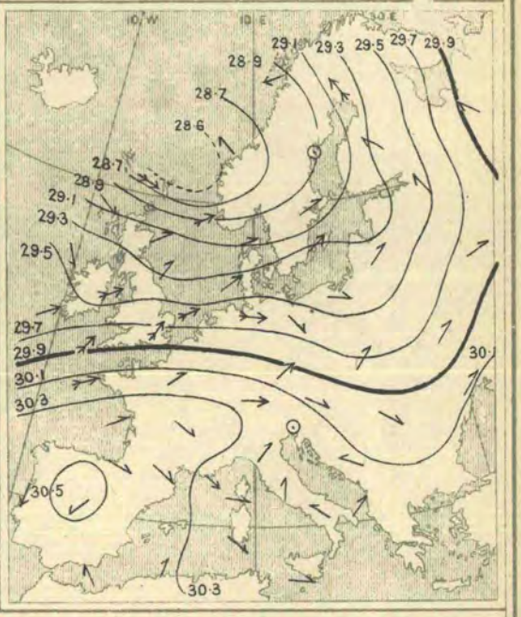
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and quiet over the Mediterranean, south-western and south-eastern Europe only; changeable and unsettled elsewhere; very rough and squally over the British Islands, North Sea, and Baltic. Rain subsequently over the whole of the British Isles and the greater part of north-western and northern Europe—heavy in some localities.

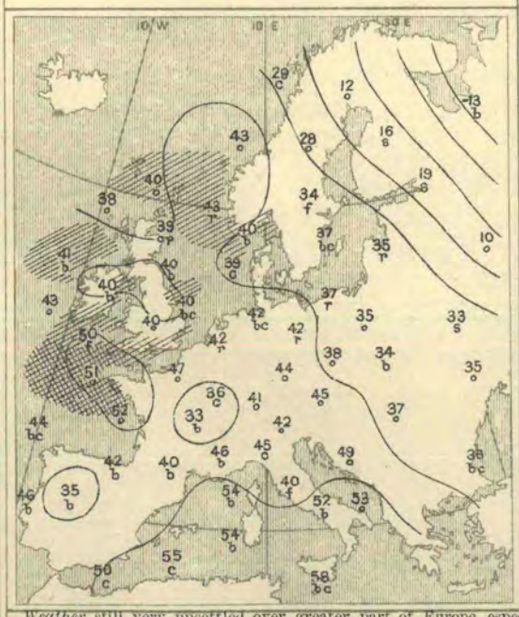
Temperature 45° to 56° at the Mediterranean stations, 59° at Lisbon, and 45° to 49° in the south and south-west of our Islands and west of France; 40° to 48° over inland parts of France and Germany, and exceeding 40° over the North Sea and west of Norway. Below the freezing point over Russia and Poland, and as low as − 12° Faht. at Archangel, + 1° at Moscow, 8° at Kharkov, 14° at St. Petersburg, and 17° at Kiev. Rising over Russia subsequently, changing irregularly over western Europe.

Wind light and variable over Spain and the southern parts of France, light Southerly over southern Germany and at Lemberg; strong to a strong gale from the Westward over the United Kingdom and its neighbourhood, from South-West and South on the eastern shores of the Baltic, and strong from South-East over the northern parts of the Gulf of Bothnia. Gales in English Channel, moderate at first, but afterwards becoming strong and spreading to our eastern coast. Gales over Baltic subsiding.

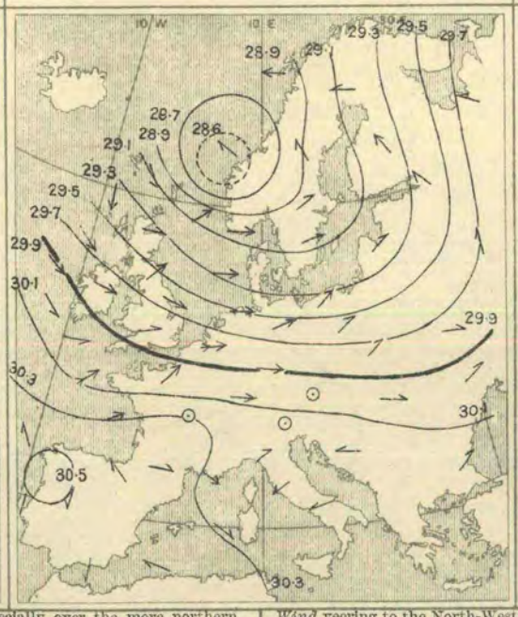
Barometer above 30·0 ins. over nearly the whole of south-eastern, southern, and south-western Europe, and as high as 30·4 ins. and more over the western half of Spain; exceeding 30·0 ins. in the north-east of Russia. Lowest, 28·5 ins. and less, in a very large and deep depression lying to the westward of Norway and northward of the Shetland Islands. Shallow local depression over the Mediterranean. Secondary system over the Baltic, and additional local disturbances appearing over our Islands later.

Monday, 27th January.

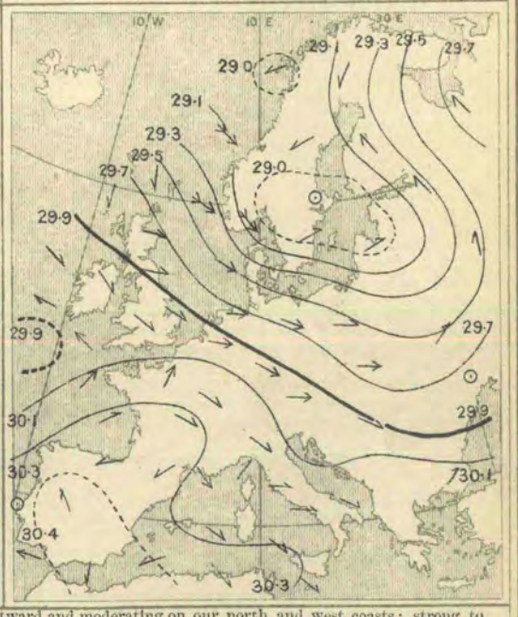
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather still very unsettled over greater part of Europe, especially over the more northern countries, inclined to improve somewhat in British Islands; fine, bright, and quiet over Spain, the Mediterranean, and south-eastern Europe; rain or snow later over Ireland, England, and the north and west of France; rather heavy in some places. Brilliant aurora seen at evening in Shropshire. Weather unsettled and showery over Holland, Germany, Baltic, Russia, and parts of Austria.

Temperature risen considerably at the Russian and Austrian stations, beginning to give way over the British Islands, France, and Spain. Exceeding 50° on southern shores of Mediterranean, in west of France, and at mouth of English Channel; exceeding 40° in the west and south of the United Kingdom, France, and north Germany. Below freezing point in Lapland, Finland, northern and central Russia, and as low as − 13° Faht. at Archangel, + 10° at Moscow, 12° at Haparanda, 16° at Kuopio, 21° at Kharkov, and 29° at Bodö. Very unsteady over the United Kingdom later, but rising decidedly over southern and central Russia.

Wind veering to the North-Westward and moderating on our north and west coasts; strong to a gale from the Westward in the south and over the North Sea, strong South-Westerly over eastern Prussia and the Baltic provinces, from South-East in Finland, and from East in Lapland. North-Westerly wind becoming more general in our Islands later, and Easterly breezes appearing on our south-western coasts. Strong Westerly gales felt on eastern shores of North Sea, while Westerly wind spread eastwards from central Europe to southern parts of Russia.

Barometer highest, 30·0 ins. and more, over all the southern half of Europe, and also at Valencia, and as high as 30·4 ins. and 30·5 ins. over Algeria, Spain, and the south-west of France; lowest, 28·6 ins. and less, in a depression lying over Norway. Said depression moving south-eastwards later, and, as a whole, pressure increasing decidedly over north-western Europe; fresh fall, however, setting in on our south-western coasts and in the west of France during afternoon.

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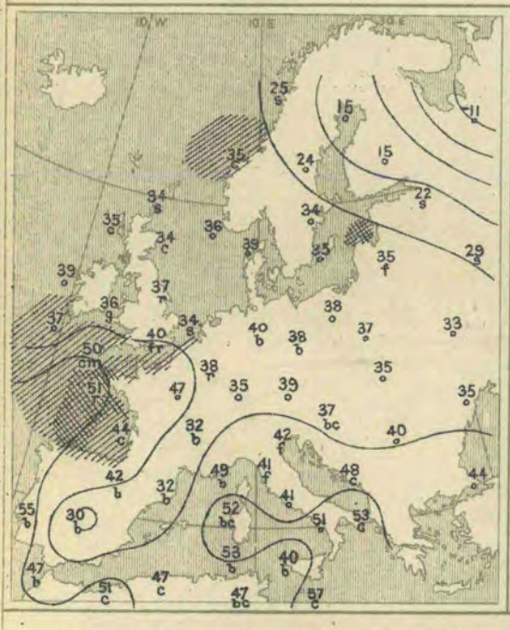
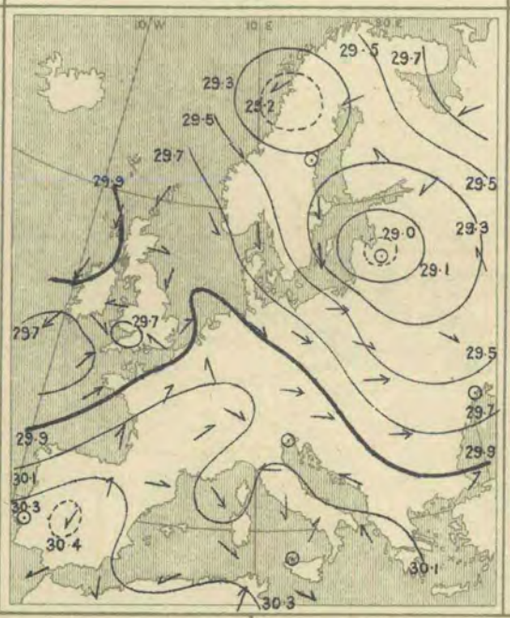
Tuesday, 28th January.

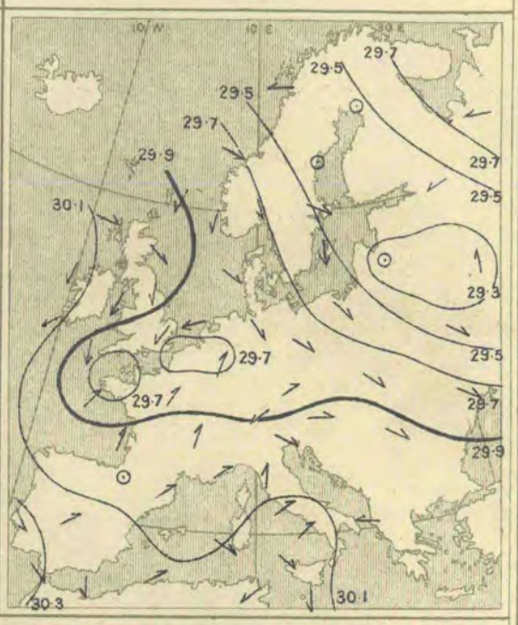
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the south-west of France, the Spanish Peninsula, and the southern parts of the Mediterranean; temporarily fine in some parts of north Germany; very dull and unsettled elsewhere. Snow at Moscow, Bodö, Sumburgh Head, and in many parts of Ireland and England; rain in the south of England, the Channel, and north of France. Rainfall in latter districts becoming heavy during day, but comparatively slight in our other districts, and fall (rain and snow) extending to Holland, Germany, and some parts of Russia.

Temperature falling decidedly in the British Islands, changing irregularly elsewhere; exceeding 50° at several Mediterranean stations, at Lisbon, and on the coast of Brittany, just touching 50° at Prawle Point and Scilly; highest, 57° at Malta and 55° at Lisbon. Below the freezing point over Lapland, Finland, northern and central Russia, as well as at Madrid; as low as − 11° Faht. at Archangel, + 15° at Haparanda, Uleaborg, and Kuopio, 24° at Hernösand, 25° at Bodö, falling again over the United Kingdom towards night, rising in France.

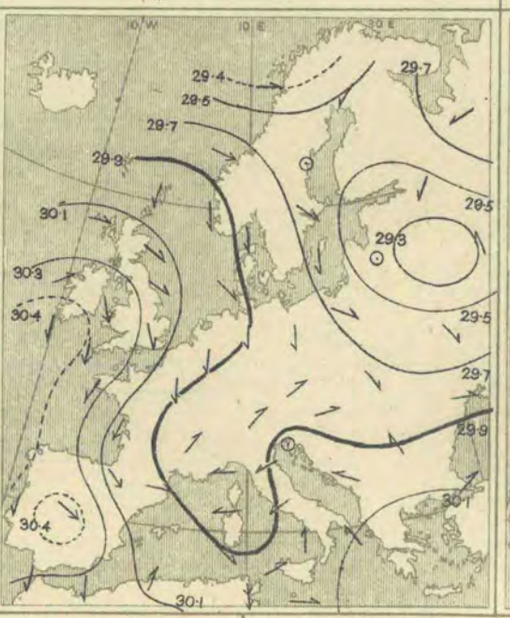
Wind light and variable over southern Europe (small cyclonic circulation over the Gulf of Genoa), strong from South-West in the Channel, moderate from North-East in Ireland. Moderate to strong Northerly winds over Scandinavia, moderate gales from West in Germany, and fresh North-Westerly breezes in Austria and Hungary. North-Easterly and Northerly winds blowing hard in Channel and south of England later, and South-Westerly wind freshening over France, but gale in Germany moderating. Easterly breezes setting in over northern Europe.

Barometer 30·3 ins. to 30·4 ins. and more over Algeria and Spain, and 30·1 ins. to 30·3 ins. in a ridge stretching thence across central France; 29·6 ins. to 29·8 ins. over the White Sea and north of Russia, and exceeding 29·9 ins. in new high pressure area off our north-western coasts. Lowest, below 29·0 ins. in a depression over Baltic Provinces, 29·2 ins. and less in a small disturbance in the north of Norway, 29·7 ins. and less in a double depression lying over south-west of our Islands, and about 30·0 ins. over Gulf of Genoa. System in south-west of our Islands moving south-eastwards during the day, and barometer rising quickly over the United Kingdom.

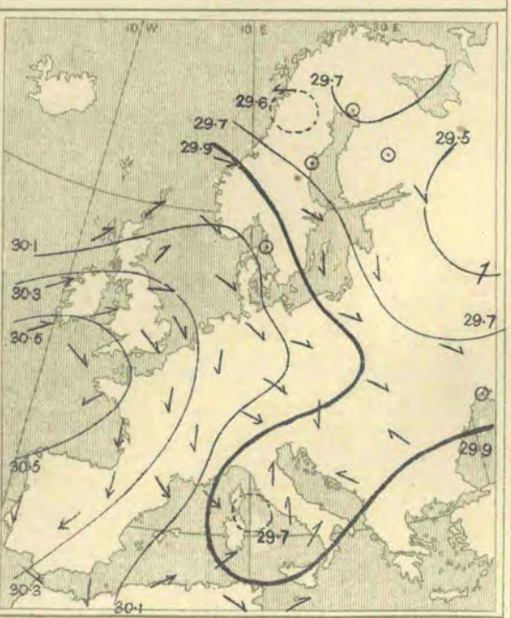
Wednesday, 29th January.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather very fine and bright over the United Kingdom, as well as at many stations in Spain, Algeria, and south-eastern Europe; cloudy and unsettled elsewhere; rainy in some parts of France, foggy over Austria, snow in many parts of Germany, Russia, and Norway. Rain falling later in the northern and eastern parts of the British Islands, several parts of France, and snow in Germany and at some Russian stations. Brilliant solar halos seen over the United Kingdom and mock suns in many places.

Temperature highest, 50° and more, at several Mediterranean stations and in Portugal, much lower elsewhere; below 40° over the United Kingdom, North Sea, central and eastern Europe, and below freezing point at many inland stations. Lowest readings, − 10° Faht. at Archangel, + 10° at Haparanda, 17° at St. Petersburg, 24° at Hernösand, 27° at Parsonstown, 31° at York. Rising fast over British Islands later.

Wind varying greatly: Westerly over the north of Norway, Northerly over the Baltic, Denmark, Holland, England, France, and Portugal, North-Westerly to Westerly in Spain; calm in Scotland, but becoming South-Westerly again on our north-west coasts. Cyclonic circulations of light winds over Germany and Russia. South-Westerly breezes becoming general in Ireland and Scotland later, a strong Northerly wind setting in over the south of France, moderate Southerly breezes in Italy and Corsica.

Barometer highest, 30·0 ins. to 30·4 ins., over Spain, the Bay of Biscay, Brittany, and the United Kingdom; lowest, 29·4 ins. and less in Lapland, 29·3 ins. and less in a depression near Moscow, 29·7 ins. and less in another over western Germany, and 29·8 ins. and less in a very shallow system over the Mediterranean. Falling west and north of our Islands later, rising fast over the Continent, and causing steep gradients for Northerly winds over the south of France.

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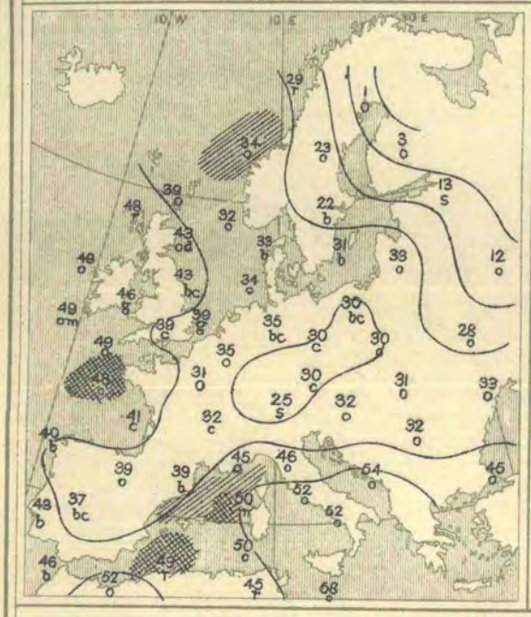
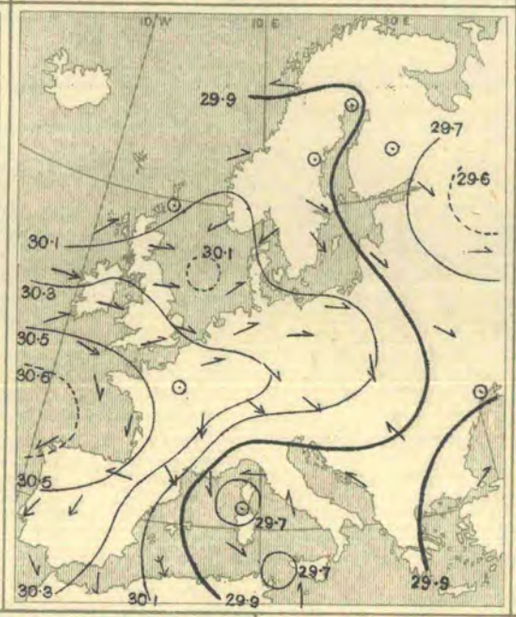
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 30th January.

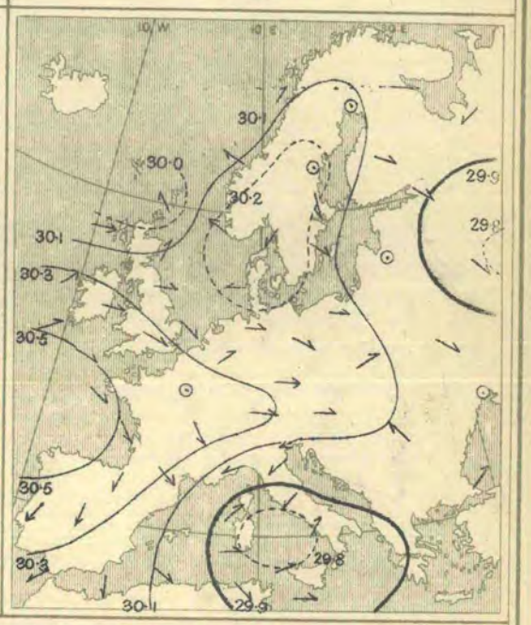
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright at several Baltic and German stations, as well as in the west of France, Portugal, and Spain; fair over several parts of England, dull and unsettled elsewhere, with rain in several parts of Scotland and Norway, snow at St. Petersburg. Rain in many parts of the Mediterranean also. Slight rain later in Ireland, Scotland, the east of England, and at most French stations, and considerable falls in Algeria and Italy.

Temperature increasing over the British Isles, falling on the Continent; morning readings above 50° at certain Mediterranean stations only, but ranging from 49° to 40° over the greater part of the British Islands, and on the Atlantic coasts of France, Spain, and Portugal. Below the freezing point over most of the inland parts of the Continent, and as low as 1° at Haparanda, 3° at Knopio, 13° at St. Petersburg, 22° at Stockholm, 27° at Wiesbaden, and 31° at Paris. Rising throughout the British Islands and France later, and exceeding 60° in the extreme south, as well as at Palermo and Malta.

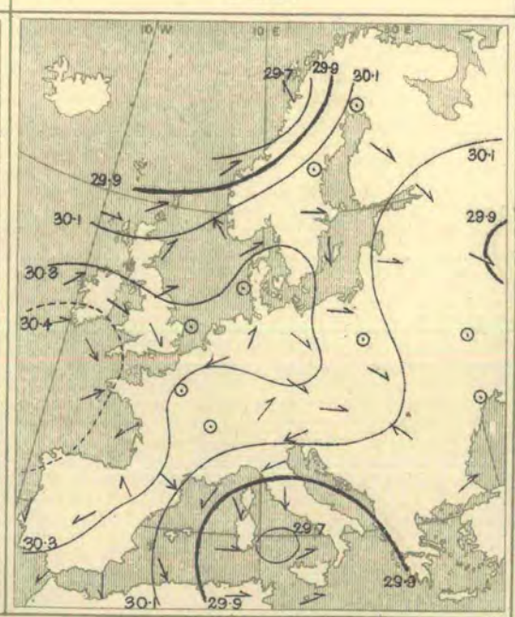
Wind light to moderate from North-West over the Baltic, Germany, and Austria, as well as over the greater part of England and the west and north of France, South-Westerly in Ireland and Scotland, variable in Norway. Well-marked cyclonic circulation over the Mediterranean and south of France, causing gales from North or North-West at Perpignan, Barcelona, and Algiers, which, however, moderated subsequently.

Barometer highest, 30·5 ins. to 30·6 ins., over the extreme south-west of England, the west of France, north of Spain, and Bay of Biscay, and exceeding 30·0 ins. over the whole of western Europe; lowest, 29·7 ins. and less, in a complex depression over the Mediterranean, as well as in another over Russia; 30·0 ins. and less to the north-westward of our Islands. An extremely shallow local depression over the North Sea. Barometer falling somewhat in France later, rising over the Baltic and northern Europe. The Mediterranean depression moving south-eastwards.

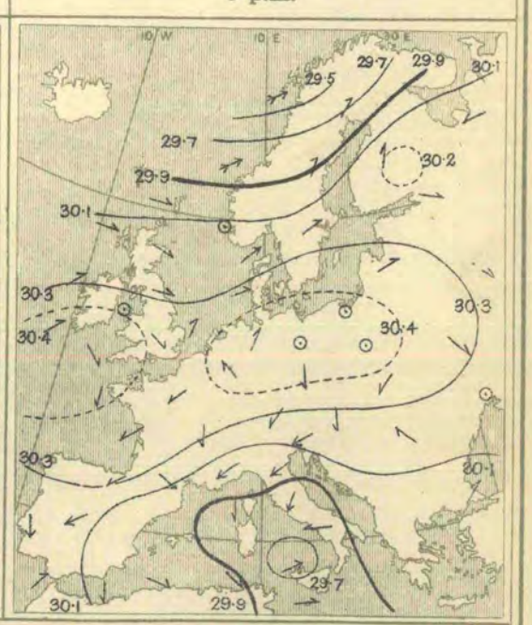
Friday, 31st January.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright in the south and east of France, as well as in many parts of Germany, Sweden, Finland, and the north of Russia: cloudy or overcast elsewhere, snow in Austria-Hungary, damp mists and slight rain in many parts of the British Isles. Thunder and lightning at Rome, rain in some parts of Algeria. Very slight rain in several parts of our Islands, Sweden, and Germany later, and larger quantities over Scandinavia and in the south-west and south of France, Algeria, and Italy.

Temperature rising decidedly over western and north-western Europe, falling in most other places; above 50° at Brindisi, Malta, and Sanguinaire, as well as in some parts of Scotland, and touching 50° in the west of Ireland and at Shields; below the freezing point over northern, eastern, and central Europe, and as low as − 23° Fahr. at Archangel, − 8° at Uleaborg, − 4° at Haparanda, + 7° at St. Petersburg, 11° at Helsingfors, 12° at Moscow, and 22° at Kharkov. Rising to between 50° and 54° in many parts of our Islands and at Brest later, and to more than 60° over the southern parts of Italy, but falling short of 50° in the south of France.

Wind strong from North and North-East over the northern parts of the Mediterranean, light and variable over the Continent as a whole, light Westerly to North-Westerly over England and the Channel, South-Westerly in Ireland and Scotland, Southerly to South-Easterly in Norway. Very light Northerly breezes in the Baltic; South-Westerly gales in the north-west of Norway later, North-Easterly breezes over France; no important change elsewhere.

Barometer highest, 30·4 ins. and more, over the south-west of our Islands, Brittany, the north-west of Spain, and adjacent parts of the Atlantic, and exceeding 30·3 ins. in a "ridge" extending thence across the Netherlands and Denmark to the south of Sweden; lowest, 29·7 ins. and less, in two depressions, one off the north-west of Norway, the other over the Mediterranean, and about 29·9 ins. in another shallow system over central Russia. The northern depression advancing north-eastwards to Lapland later: no other change of importance.

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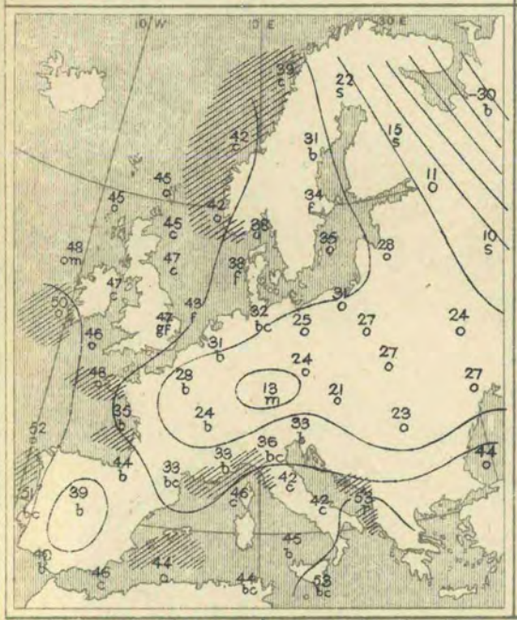
Saturday, 1st February.

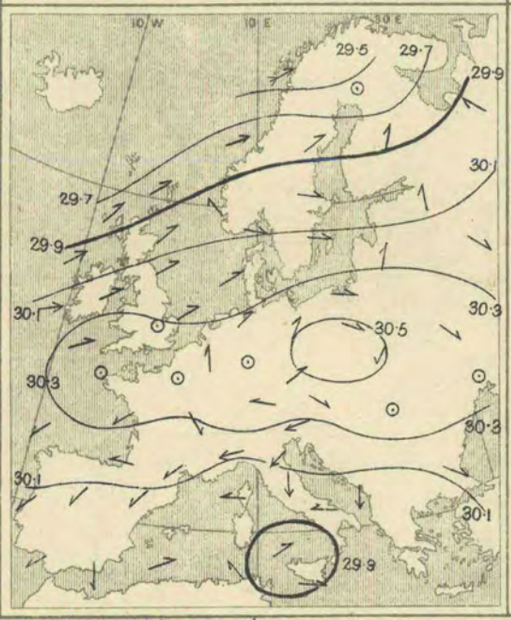
Temperature and Weather. 8 a.m.



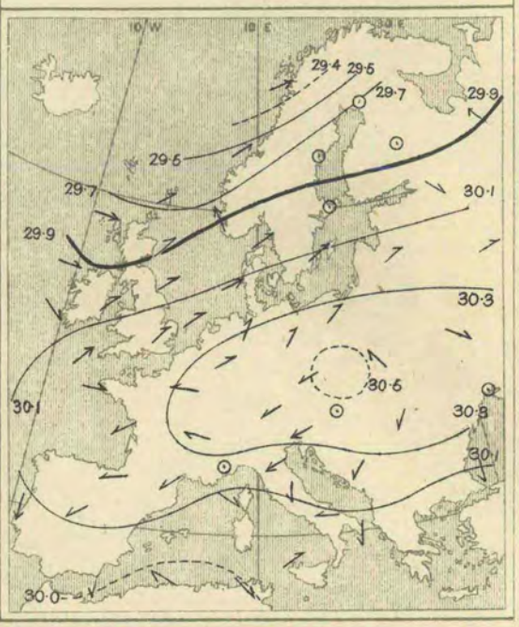
Weather fine and bright over south-western and southern Europe, and in many parts of Germany and France; cloudy or overcast elsewhere, with snow in several parts of Finland and Lapland, and wet mists in the British Islands. Rain over Ireland and Scandinavia later, slight falls in some parts of Scotland, England and Russia, and considerable falls over western Algeria.

Temperature highest in the extreme south and west; lowest over central Europe and northern Russia. Exceeding 50° at Brindisi, Malta, Lisbon and Corunna, and falling but little short of that value over the British Islands; exceeding 40° even in the west of Norway. Below the freezing point over the whole of northern, eastern and central Europe, and as low as (1) — 30° Fahr. at Archangel, + 10° at Moscow, 11° at St. Petersburg, 15° at Kuoplo and 19° at Kharkov; (2) 13° at Munich, 21° at Vienna, 24° at Lyons, 25° at Berlin, and 28° at Paris. Very mild over the British Isles all day, with damp air.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Wind North-Easterly to Easterly over the Mediterranean, strong at the northern stations; Northerly and North-Easterly, light, over the Bay of Biscay and France; South-Westerly, light to moderate, over the British Islands, and blowing a gale from West-South-West over the northern half of Norway. Becoming strong from South at Valencia later, but gale in Norway subsiding.

Barometer highest, 30·3 ins. to 30·5 ins. and more, in a high-pressure area lying over Germany, France, and the southern parts of the British Isles; lowest, 29·5 ins. and less, over Lapland, 29·8 ins. and less off our extreme north-western coasts, and 29·9 ins. and less in a shallow depression lying over Sicily and Malta. Latter disturbance filling up later, but large depression approaching Norway.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week pressure was high, 30·1 ins. and more, over southern Europe, the highest values of all being 30·3 ins. to 30·4 ins. over the Iberian Peninsular. A large and deep depression was advancing towards Norway from the south-westward, and shallow secondary systems were travelling across the British Islands. On Monday these disturbances were all travelling away towards Russia and filling up, and after a complex disturbance had appeared over the southern parts of Ireland and England and travelled thence to western Germany, the high-pressure area moved northwards, the gales subsided, and the weather improved very generally. The depressions which appeared were confined to the extreme northern parts of our area on the one hand, or to the Mediterranean on the other, but at the close of the week there was no disturbance of any importance to be found except off the western coast of Lapland. Temperature has varied greatly, but except on Wednesday and Thursday morning, was above the average over the British Islands and their neighbourhood. Very low readings were recorded over northern Europe during the latter half of the week.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 6.] *Third Series.* WEEK ENDING SATURDAY, 8TH FEBRUARY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. of this Series.

Temperature of the Air.

	DISTRICTS. (See p 32.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	54	24	45·9	34·4	40·2	2 above.	11	+ 4	30	+ 1	80	+44	139	− 55
	1. SCOTLAND, EAST -	53	23	45·5	31·8	38·6	2 above.	10	− 1	38	+ 3	87	+48	167	− 75
	2. ENGLAND, N.E. - -	51	27	43·7	35·0	39·4	1 above.	5	− 6	26	− 5	85	+48	149	− 80
	3. ENGLAND, EAST -	49	26	43·9	32·4	38·2	1 below.	5	− 7	35	+ 4	94	+50	185	− 62
	4. MIDLAND COUNTIES	52	22	43·8	31·3	37·5	2 below.	5	− 8	38	+ 7	106	+52	182	− 61
	5. ENGLAND, SOUTH -	52	24	43·4	32·6	38·0	3 below.	4	−10	34	+10	133	+73	111	− 83
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	50	25	44·4	34·4	39.4	0 (average)	7	− 4	28	+ 5	101	+49	98	− 85
	7. ENGLAND, N.W. -	48	23	43·7	35·0	39·4	1 below.	5	− 6	26	+ 3	100	+51	103	− 88
	8. ENGLAND, S.W. -	52	24	44·0	32·7	38·4	4 below.	6	−14	34	+22	151	+52	94	− 20
	9. IRELAND, NORTH -	48	23	45·3	33·8	39·5	1 below.	9	− 6	31	+ 9	107	+33	115	− 46
	10. IRELAND, SOUTH -	52	23	45·8	33·0	39·4	3 below.	11	−11	34	+21	156	+36	85	− 25
	— CHANNEL ISLANDS -	50	33	45·5	38·9	42.2	2 below.	14	− 9	9	+ 3	203	+83	29	− 32

Rainfall.

	DISTRICTS. (See p. 32.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	3	2	7 less.	33	+ 4	8·4	− 0·2
	1. SCOTLAND, EAST -	1	less than ½	7 less.	25	+ 5	4·8	+ 0·8
	2. ENGLAND, N.E. - -	2	less than ½	4 less.	22	+ 1	2·0	− 0·8
	3. ENGLAND, EAST -	3	1	4 less.	26	+ 4	2·5	− 0·2
	4. MIDLAND COUNTIES-	1	less than ½	6 less.	24	+ 3	3·2	− 0·3
	5. ENGLAND, SOUTH -	1	1	6 less.	24	+ 3	3·2	− 0·6
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	1	2	9 less.	32	+ 6	8·7	− 0·5
	7. ENGLAND, N.W. - -	1	less than ½	7 less.	31	+ 8	4·9	+ 0·5
	8. ENGLAND, S.W. - -	1	less than ½	10 less.	29	+ 5	5·8	− 0·4
	9. IRELAND, NORTH -	2	1	7 less.	32	+ 5	5·2	+ 0·7
	10. IRELAND, SOUTH -	2	1	8 less.	31	+ 5	7·0	+ 1·2
	— CHANNEL ISLANDS -	3	1	7 less.	32	+ 6	4·6	− 0·2

Bright Sunshine.

	DISTRICTS. (See p. 32.)	For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	18	31	38	− 5	12	− 2
	1. SCOTLAND, EAST -	28	47	73	+ 1	23	0
	2. ENGLAND, N.E. - -	21	34	69	+27	21	+ 9
	3. ENGLAND, EAST -	22	35	85	+18	25	+ 6
	4. MIDLAND COUNTIES-	18	28	75	+19	22	+ 6
	5. ENGLAND, SOUTH -	20	32	73	+16	21	+ 5
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	21	33	58	+10	18	+ 4
	7. ENGLAND, N.W. - -	24	38	62	+12	19	+ 4
	8. ENGLAND, S.W. - -	32	50	84	+15	24	+ 5
	9. IRELAND, NORTH -	22	36	81	+13	24	+ 4
	10. IRELAND, SOUTH -	30	48	92	+13	27	+ 4
	— CHANNEL ISLANDS -	28	43	89	− 7	24	− 2

General Remarks.

Weather during this period has been finer and more settled than for many weeks past. Over the greater part of the Kingdom the conditions have been dry and the sky frequently cloudless, but at some of our south-eastern stations—and notably in London—a good deal of cloud has prevailed, accompanied at times by slight drizzling rain. Fog or mist has been experienced occasionally in all districts.

Temperature has continued a little above the mean in the extreme north and north-east of Great Britain, and has just equalled it in "Scotland W.," but in all other districts it has been rather below. The highest of the maxima, which were recorded in most places either on the 2nd or 3rd, ranged from 50° to 54° over Scotland, and from 48° to 52° over Ireland and England. The lowest of the minima were registered on very irregular dates, and ranged from 23° in Ireland to between 23° and 25° in Scotland, and from 23° to 27° over England. In the "Channel Islands" the lowest reading was 33°.

Rainfall has been much less than the mean in all districts. Many parts of the Kingdom have been almost rainless.

Bright Sunshine shows a very general and decided increase, and, taking the country as a whole, has been more prevalent than during any week since that which ended October 14th, 1889. The percentage of the possible amount of duration ranged from 28 in the "Midland Counties" to 43 in the "Channel Islands," 47 in "Scotland E.," 48 in "Ireland S.," and 50 in "England S.W." In London only 8 hours were recorded, which was less than at any other station in the Kingdom.

Barometer and Wind.—During the earlier part of the week pressure was highest in the south and lowest in the north, and although the mercury was rather unsteady, no depressions advanced immediately over our Islands. By the 5th, however, a change in the distribution had commenced; an anti-cyclone was advancing over Ireland from the Atlantic, and during the remainder of the week moved slowly in an easterly direction across the United Kingdom to the North Sea. With this system the Westerly breezes which had previously been general gave way, except over the northern districts, and in the southern parts of the Kingdom the wind became Easterly to North-Easterly, and blew strongly over the Channel.

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III.—DATA from which the SUMMARY on page 31 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	48	33	46·6	38·6	42·6	+3·6	18	10	5	0·27	—0·55	*	*
	Stornoway ℌ	48	34	45·7	35·9	40·8	+1·8	10	24	3	0·12	—0·97	17·8	30
	Wick ℌ	49	29	46·0	33·4	39·7	+1·2	11	33	1	0·02	—0·47	*	*
	Lairg ℌ	54	24	47·4	32·1	39·8	+2·8	15	39	4	0·17	—0·62	*	*
	Glencarron ℌ	46	31	44·2	33·8	39·0	+1·8	6	30	4	0·61†	—1·25	?	?
	Fort Augustus ℌ	49	28	45·3	32·6	39·0	+0·5	9	36	2	0·20†	?	18·9	32
1. SCOTLAND, E.	Nairn ℌ	51	27	47·1	34·3	40·7	+2·4	14	31	1	0·01	—0·39	*	*
	Aberdeen ℌ	52	30	45·9	33·7	39·8	+1·8	11	32	0	—	—0·61	34·7	58
	Braemar ℌ	47	25	43·8	29·7	36·8	+2·8	5	45	1	0·03	—0·76	26·8‡	45‡
	Ochtertyre ℌ	53	24	48·1	29·4	38·8	+1·4	17	49	1	0·01	—1·19	*	*
	Leith ℌ	50	23	42·7	30·7	36·7	—1·8	2	40	0	—	—0·43	*	*
	Marchmont ℌ	48	28	45·1	32·7	38·9	+2·7	9	35	1	0·04	—0·61	22·8	38
2. ENGLAND, N.E.	Alnwick Castle ℌ	47	30	42·7	34·6	38·7	+0·6	2	27	1	0·04	—0·54	*	*
	Durham ℌ	51	28	44·3	32·7	38·5	—0·1	6	34	2	0·05	—0·40	24·8	41
	Shields ℌ	50	31	44·9	35·4	40·2	+1·2	8	25	1	0·01	—0·39	*	*
	Scarborough ℌ	48	30	43·3	35·2	39·3	+1·0	4	25	3	0·10	—0·34	20·6‡	33‡
	York ℌ	51	27	43·9	34·7	39·3	+0·4	5	27	0	—	—0·47	16·9	27
	Spurn Head ℌ	44	34	43·0	37·3	40·2	+1·2	3	18	2	0·04	?	*	*
3. ENGLAND, E.	Hillington ℌ	47	28	43·8	31·2	37·5	—1·0	5	39	2	0·04	—0·43	23·0	37
	Yarmouth ℌ	45	30	42·3	34·4	38·4	—1·4	1	27	2	0·04	—0·46	*	*
	Geldeston ℌ	47	28	44·1	32·6	38·4	—1·6	6	35	3	0·05	—0·34	22·2	35
	Cambridge ℌ	49	27	45·0	31·1	38·5	—0·7	11	41	2	0·06	—0·32	20·9	33
	Rothamsted ℌ	47	27	43·6	32·3	38·0	—0·9	4	35	2	0·03	—0·57	*	*
	Ingatestone ℌ	49	26	43·9	33·0	38·5	—0·7	5	33	4	0·12	—0·28	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ℌ	52	26	46·0	35·4	40·7	+0·9	11	26	1	0·02	—0·40	16·4‡	26‡
	Loughborough ℌ	49	27	44·6	32·0	38·3	—0·7	7	37	3	0·04	—0·45	12·8‡	20‡
	Cheadle ℌ	44	29	41·4	32·4	36·9	—1·6	0	36	0	—	—0·69	*	*
	Churchstoke ℌ	49	25	41·8	28·6	35·2	—4·8	0	48	2	0·03	—0·67	18·5	29
	Hereford ℌ	50	25	44·2	30·1	37·2	—2·8	6	44	0	—	—0·61	*	*
	Cirencester ℌ	47	22	43·6	29·7	36·7	—2·5	4	45	1	0·01	—0·71	21·3	33
	Oxford ℌ	48	26	44·7	30·6	37·7	—2·3	8	42	2	0·03	—0·48	20·4	32
5. ENGLAND, S.	London ℌ	47	28	43·6	33·1	38·4	—1·8	4	33	1	0·03	—0·46	8·1‡	13‡
	Strathfield Turgiss ℌ	49	25	42·7	30·4	36·6	—3·4	2	41	1	0·04	—0·54	*	*
	Dungeness ℌ	52	28	43·4	33·0	38·2	—2·8	4	32	1	0·15	—0·40	*	*
	Hastings (St. Leonards) ℌ	50	32	43·2	34·9	39·1	—1·7	3	26	1	0·13	—0·45	27·4	43
	Southampton ℌ	48	28	44·8	32·1	38·5	—1·9	8	37	0	—	—0·75	28·3	44
	Hurst Castle ℌ	47	28	44·4	34·4	39·4	—2·4	7	28	0	—	—0·66	*	*
	Stowell ℌ	46	24	41·7	30·0	35·9	—4·8	0	43	1	0·03	?	17·1‡	27‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ℌ	50	32	45·9	35·2	40·6	+1·1	11	27	4	0·72†	—1·37	*	*
	Glasgow ℌ	47	29	42·7	33·6	38·2	—0·7	2	30	1	0·03	—0·95	10·3	17
	Ardrossan ℌ	47	30	43·7	35·1	39·4	0·0	5	25	0	—	—0·90	*	*
	Glenlee ℌ	47	25	44·3	31·4	37·9	+0·1	6	39	1	0·01	—1·54	*	*
	Douglas (Isle of Man) ℌ	47	30	45·3	36·6	41·0	+0·2	9	22	1	0·03	—0·97	31·1	49
7. ENGLAND, N.W.	Newton Reigny ℌ	47	23	44·6	31·6	38·1	+0·1	7	38	1	0·01	—0·82	22·5	37
	Stonyhurst ℌ	45	29	42·3	34·6	38·5	—0·5	1	26	2	0·04	—0·92	20·0	32
	Blackpool ℌ	46	29	43·9	35·0	39·5	—1·4	5	26	1	0·01	—0 64	24·9	40
	Manchester ℌ	47	29	42·9	33·3	38·1	—1·7	3	31	1	0·03	—0·63	*	*
	Liverpool Obsy. (Bidston) ℌ	47	31	43·1	35·6	39·4	—1·5	3	24	1	0·01	—0·47	*	*
	Llandudno ℌ	47	30	44·4	35·7	40·1	—1·9	7	24	0	—	—0·62	26·7	42
	Holyhead ℌ	48	32	45·0	39·1	42·1	—0·9	13	8	1	0·04	—0·71	*	*
8. ENGLAND, S.W.	Llandovery ℌ	47	24	43·6	29·3	36·5	—4·5	4	46	1	0·01	—1·18	*	*
	Pembroke ℌ	49	26	44·6	34·6	39·6	—3·4	7	28	1	0·04	—0·78	41·0	64
	Arlington (N. Devon) ℌ	46	27	42·7	31·4	37·1	—3·7	2	38	1	0·02	—1·16	*	*
	Cullompton ℌ	49	24	43·2	30·8	37·0	—4·8	3	40	1	0·01	—0·82	22·8	36
	Falmouth ℌ	47	32	43·8	34·4	39·1	—4·7	5	28	0	—	—1·22	33·4	51
	Plymouth ℌ	48	28	44·3	33·2	38·8	—4·3	6	33	0	—	—0·88	30·8	47
	Prawle Point ℌ	52	32	46·1	34·9	40·5	—2·4	11	28	0	—	?	*	*
9. IRELAND, N.	Malin Head ℌ	47	33	45·4	37·4	41·4	+1·1	10	18	3	0·10	?	*	*
	Londonderry ℌ	47	30	44·8	34·1	39·5	—1·1	8	30	3	0·08	—0·73	*	*
	Mullaghmore ℌ	48	31	45·4	36·1	40·8	—0·6	10	23	4	0·25	—0·61	*	*
	Belmullet ℌ	48	32	46·4	36·0	41·2	—2·8	12	24	2	0·18	?	*	*
	Markree Castle ℌ	47	23	45·7	28·9	37·3	—3·5	10	48	3	0·11	—0·61	22·0	35
	Brookeborough ℌ	48	23	45·2	31·3	38·3	—1·5	9	40	0	—	?	*	*
	Armagh ℌ	47	29	44·5	32·4	38·5	—1·7	7	36	2	0·07	—0·58	22·4	36
	Donaghadee ℌ	47	32	45·6	35·9	40·8	0·0	10	24	1	0·02	—0·66	*	*
	Edgeworthstown ℌ	46	28	44·4	31·7	38·1	—1·7	7	38	3	0·09	—0·68	*	*
10. IRELAND, S.	Dublin ℌ	49	32	46·1	36 0	41·1	—0·2	11	24	1	0.01	—0·54	28·6	45
	Parsonstown ℌ	47	23	45·3	29·7	37·5	—2·3	9	45	1	0·04	—0·61	29·6	47
	Kilkenny ℌ	46	26	45·0	29·7	37·4	—3·1	8	46	0	—	—0·77	*	*
	Waterford ℌ	47	28	45·4	31·7	38·6	—4·2	10	39	2	0·13	—0·95	*	*
	Roche's Point ℌ	48	32	46·1	39·1	42·6	—1·1	16	8	2	0·03	—1·24	*	*
	Valencia ℌ	49	30	47·1	35·7	41·4	—3·9	14	26	4	0·18	—1·17	33·0	52
	Killarney ℌ	49	23	45·3	28·6	37·0	—6·5	9	50	1	0.09	?	*	*
	Foynes ℌ	52	28	45·8	33·4	39·6	—1·9	11	33	2	0·57	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ℌ	48	39	45·9	40·1	43·0	—3·0	15	5	3	0·04	—0·74	*	*
	Jersey ℌ	50	33	45·1	37·6	41·4	—0·7	9	18	3	0·09	—0·60	28·2	43

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked ℑ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

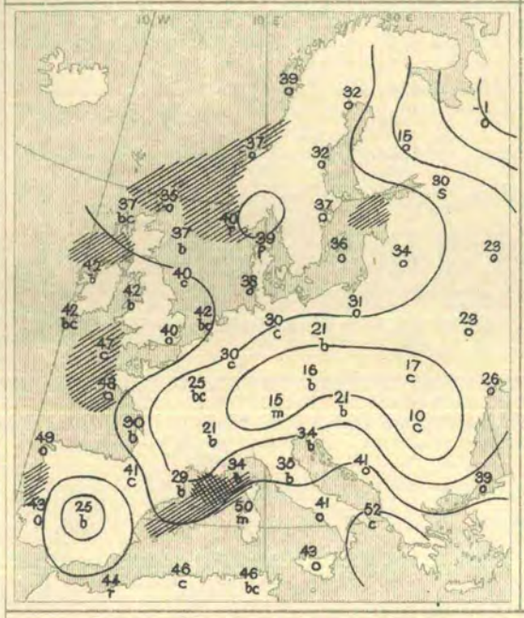
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, and those entered to Scarborough at Oswaldkirk. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

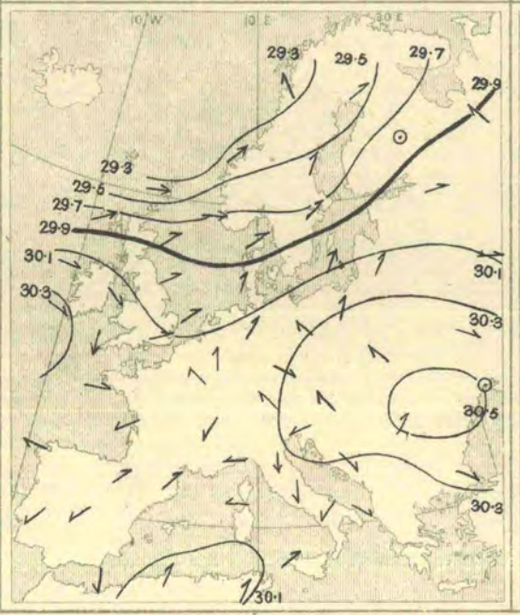
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 2nd February.

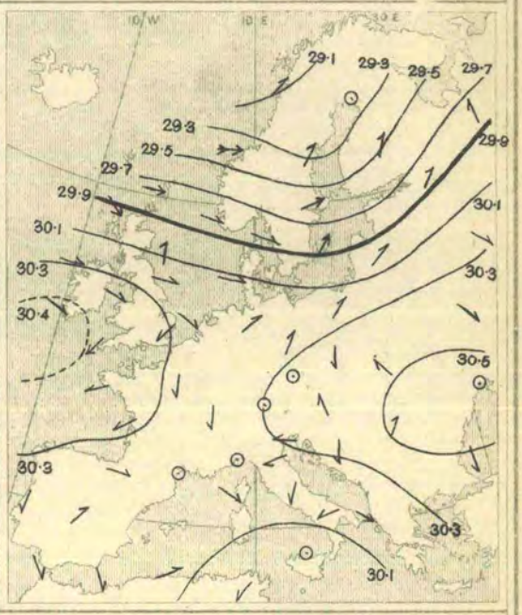
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather improving over the British Islands and France, fine and bright over southern and central Europe, dull and gloomy in the far north, with rain at several Scandinavian stations. Rainfall considerable in northern Europe later, snow in some places, very slight rain on our own north-western coasts, but weather improving over England.

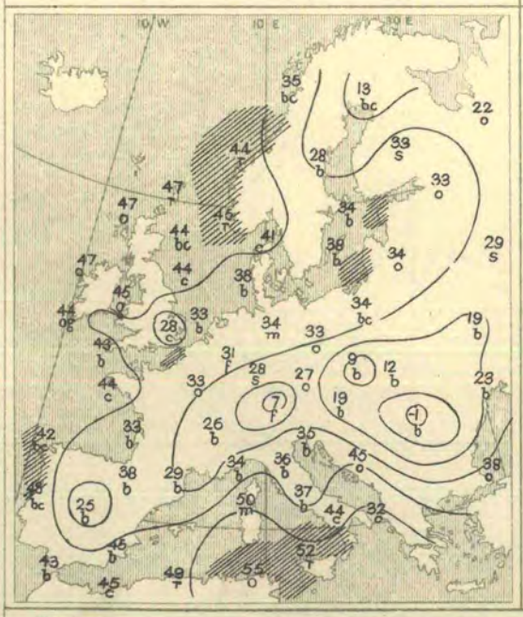
Temperature fallen considerably over central Europe, and beginning to decrease in the west and north-west, but risen considerably over Finland and northern Russia; exceeding 50° at Brindisi only, but exceeding 40° in many parts of our Islands, Spain, and Algeria. Lowest, (1) −1° at Archangel, +15° at Kuopio, 27° at Uleaborg, and 30° at St. Petersburg; (2) 6° at Cracow, 10° at Hermanstadt, 15° at Munich and Breslau, 20° at Kharkov, 21° at Lyons and Berlin, 25° at Paris and Madrid, failing still further over the United Kingdom later; frost inland at night. Daily maxima as high as 57° on the coasts of Algeria and 59° at Palermo.

Wind chiefly Easterly to Northerly over the Mediterranean, very light and variable over eastern and central Europe, North-Westerly on our south-western and southern coasts, Westerly at our northern stations, South-Westerly over Holland, Denmark, and Scandinavia. The North-Westerly wind becoming general in Ireland and England later, North-Easterly over the Channel, France, and Bay of Biscay.

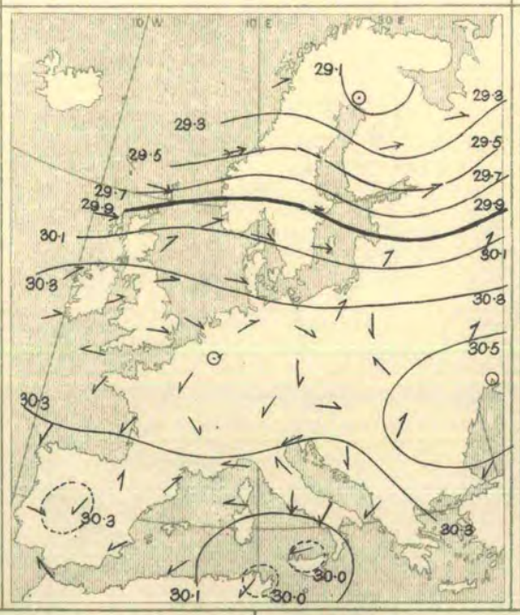
Barometer above 30·0 ins. over all but the northern parts of the British Isles and Europe, as high as 30·4 ins. and 30·5 ins. and more over Austria-Hungary and southern Russia, and exceeding 30·2 ins. in a new anti-cyclone advancing over Ireland from the Atlantic; lowest, 29·3 ins. and less, off the west of Norway. The new anti-cyclone spreading to the east decidedly later, and the depression off Norway moving north-eastwards.

Monday, 3rd February.

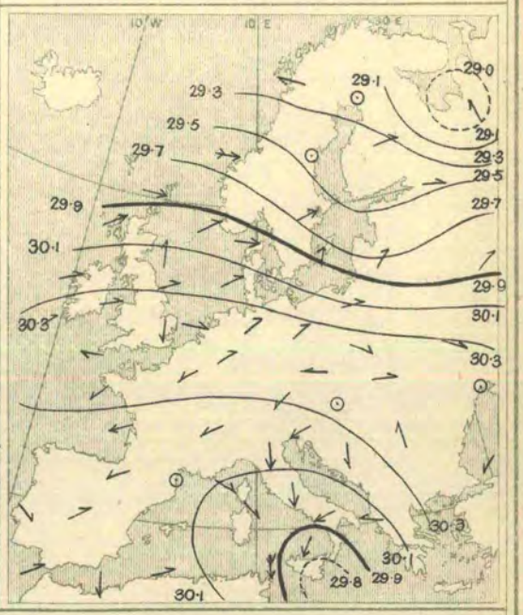
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over south-eastern, central, and western Europe, as well as England and several of the Swedish stations; dull in the extreme west and north of our Islands and in Norway, with rain in several places; snow reported at Kuopio and Moscow; rain, thunder, and lightning at the Algerian stations. Some rain later in Norway, the Shetlands, and Ireland, and heavy fall at La Calle.

Temperature highest, 50° and more, over the south-eastern parts of the Mediterranean, and ranging between 40° and 50° on the Atlantic coasts of Norway, the British Isles, Brittany, and Spain. Below the freezing point over northern eastern, and central Europe, and central Spain; lowest morning values, −1° Faht. at Hermanstadt, +7° at Munich, 9° at Cracow, 12° at Lemberg, 19° at Kiev, 22° at Archangel, 25° at Madrid, 29° at Moscow, Oxford, and in London. No important change later.

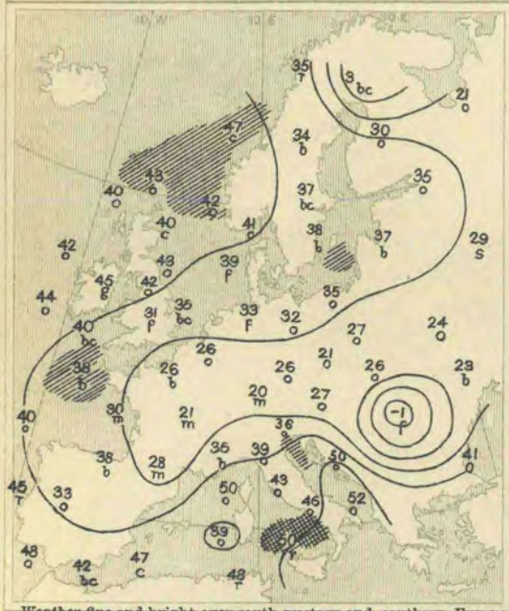
Wind mainly Easterly over the northern parts of the Mediterranean, very light and variable over central Europe, North-Easterly over the Channel, France, and the Bay of Biscay. Light South-Westerly breezes prevalent over the northern half of the United Kingdom, Westerly gales in the Shetlands and west of Norway, fresh to strong Westerly breezes over the Baltic; Northerly gales occurring at Palermo and Tunis later, and the Westerly gale continuing in the west of Norway.

Barometer 30·3 ins. to about 30·5 ins. over Ireland, England, central and south-eastern Europe; highest of all, 30·6 ins. at Hermanstadt; lowest, 29·1 ins. and less, in a depression over the north of Finland, 29·2 ins. and less off the north-west of Norway, and 30·0 ins. and less in a complex depression lying over eastern Algeria, Sicily, and the southern parts of Sardinia. Falling over western Europe later and large depression approaching Lapland from the south-westward.

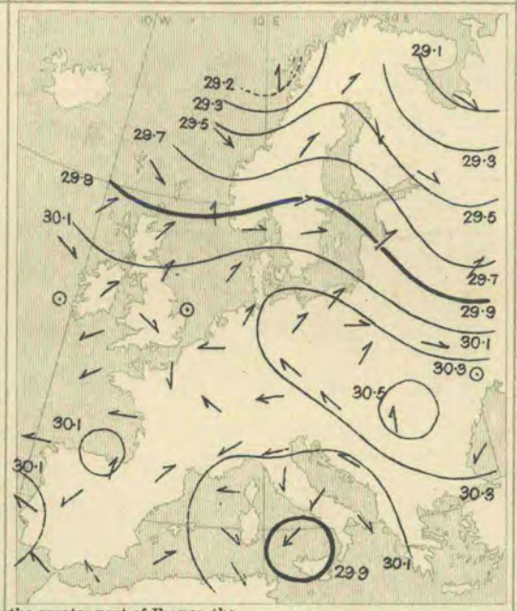
Judd & Co Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

Tuesday, 4th February.

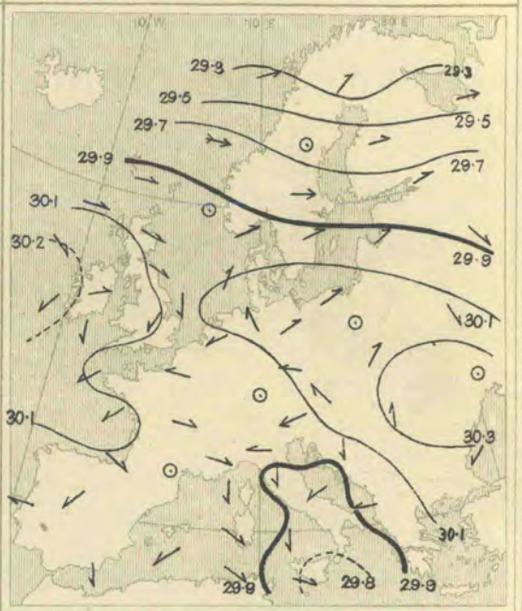
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-western and southern Europe, the greater part of France, the south of England, and also in Sweden; cloudy or dull elsewhere; fog at the Dutch stations, as well as in several localities in the south-east of England; rain in the Sound and at Swinemunde, also in the north-western parts of our Islands and in Norway; snow at Moscow. Heavy rain and snow at Christiansund later and very heavy rain at Palermo.

Temperature risen over eastern Germany, Poland, and southern Russia, fallen over Lapland and Finland. Highest morning values, 50° at Brindisi and Malta only, 48° at La Calle and San Fernando, 47° at Christiansund, 45° at Ardrossan, 44° at Leith and Valencia, and 43° at Sumburgh Head, Nairn, Mullaghmore, Roches Point, and Shields. Below the freezing point over nearly all the inland districts, including the southern counties of England, and as low as (1) 3° at Haparanda, 20° at Uleaborg, and 21° at Archangel; (2) −1° Faht. at Hermanstadt, +15° at Kharkov, 20° at Munich, and 21° at Cracow. At Paris and Brussels the temperature was 26°, at Oxford and Perpignan 28°, and in London 31°. Daily maxima below 50° over our Islands and at most of the French stations, but 61° at Algiers and 63° at Sanguinaire.

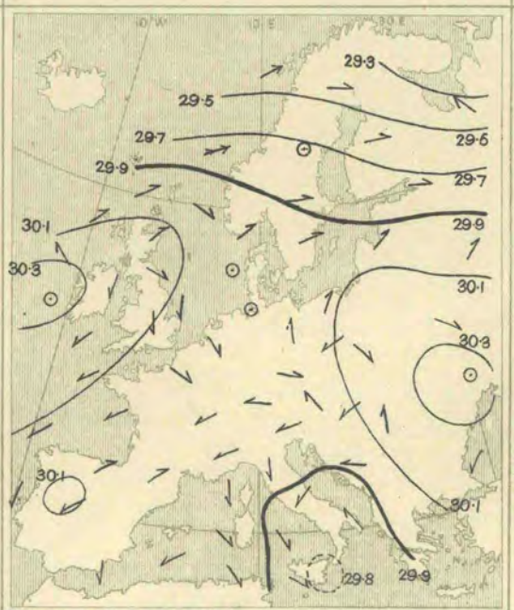
Wind continuing Easterly to North-Easterly over southern and south-western Europe, North-Easterly over the Channel and Bay of Biscay, very variable (anti-cyclonic) airs over Austria-Hungary and the south of Russia. Westerly and South-Westerly breezes still prevalent over the more northern countries, but of very little strength at the Irish and Scotch stations, where they tended to veer Northwards. Westerly gale later in the west of Norway and wind over the United Kingdom veering to the North-Westward or Northward.

Barometer highest, 30·3 ins. to 30·5 ins., over the south-west of Russia, Austria-Hungary, and Germany, and exceeding 30·2 ins. in a band stretching westward from north Germany across the Netherlands and the south of England to the Atlantic off our south-western coasts; lowest, 29·1 ins., in northern Russia, and 29·2 ins. off the north-west of Norway. New anti-cyclone appearing in the west later, but barometer falling rather decidedly over central and south-eastern Europe.

Wednesday, 5th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright over the greater part of the United Kingdom and at most of the Mediterranean stations, cloudy or dull elsewhere; fog in some parts of Russia, Austria, and Bavaria, and rain at Copenhagen, Biarritz, and Palermo. A little rain later in the north-western and northern parts of our Islands, and larger quantities in Norway; becoming rather unsettled in the south-east of England and north of France.

Temperature risen over Algeria, Spain, France, and the southern districts of England, fallen in nearly all other places. Highest morning values, 55° at Malta, 53° at Brindisi, 51° at Lesina, 50° at Algiers, 49° at Sanguinaire, 45° at Biarritz and Scilly, and 42° at Sumburgh Head. Below the freezing point over nearly the whole of Russia, Germany, and France, as well as over the central parts of Ireland. Lowest morning values, 4° Faht. at Hermanstadt, 15° at Munich and Lemberg, 18° at Cracow, 19° at Belfort, and 21° at Archangel, Haparanda, and Breslau. Falling fast over England towards night.

Wind Northerly and North-Easterly over England and the greater part of France and Spain, very variable (anti-cyclonic) over the south of Russia, and variable (cyclonic) over Italy. Westerly and South-Westerly breezes still prevailing over most of the northern countries, and light Southerly airs over the north of Ireland.

Barometer highest, 30·1 ins. to 30·3 ins. and more, in an anti-cyclone advancing over the British Islands, and also over southern and western parts of Russia, with Hungary and Poland, and 30·1 ins. in a small anti-cyclone lying over central Spain; lowest, 29·4 ins. and less, over Lapland and northern Russia, and 29·8 ins. in a well-marked depression between Sicily and Malta. Anti-cyclone over Ireland moving very slowly to the north-eastward later, and barometer rising in nearly all parts of western Europe.

Judd & Co Lte Lith. 73 & 75, Farringdon Rd & Doctors' Commons

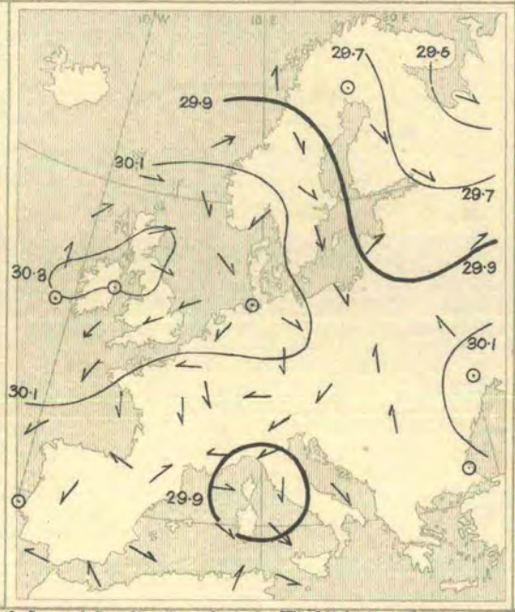
Thursday, 6th February.

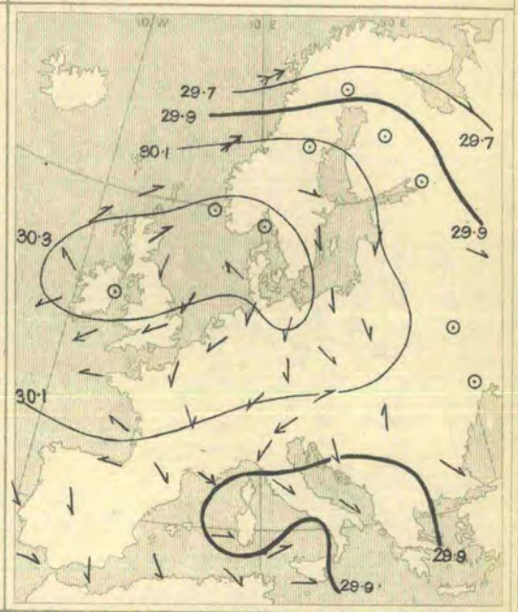
Temperature and Weather. 8 a.m.

Weather fine over the greater part of the British Islands, the North Sea, and Scandinavia, and at several of the Mediterranean Stations; cloudy or overcast elsewhere, foggy over central parts of our Islands and in south of Russia, hail and sleet showers in the Channel and south-east of England. A little rain in Norway and the Shetland Islands later, very slight cold showers at some of our own southern stations during morning, and some rain over Algeria and the south of Spain.

Temperature increasing in Ireland, Scotland, and the greater part of central Europe; decreasing elsewhere. Above 50° at Brindisi and Malta only, touching 45° at Sumburgh Head, but very little above 40° even at Lisbon; below the freezing point over almost all the inland parts of Europe and central England, and as low as (1) 1° Faht. at Uleaborg, 6° at Haparanda, 20° at Kuopio, 26° at Hango, 28° at Hernösand and Stockholm; (2) 6° at Hermanstadt, 15° at Lemberg, 16° at Kiev, 22° at Munich, 23° at Belfort and Kharkov.

Barometer and Wind. 8 a.m. 6 p.m.





Wind light to moderate generally and very variable; anti-cyclonic over the United Kingdom and North Sea, South-westerly in Norway, Northerly to North-Westerly over the Baltic and eastern Prussia, chiefly North-Easterly to Easterly over France, the Channel, and Bay of Biscay, Northerly over the western parts of the Mediterranean, North-Westerly at Palermo and Malta. The South-Westerly wind in Norway blowing a gale later and Easterly wind in the Channel freshening.

Barometer highest, 30·2 ins. to 30·3 ins. and more, in an anti-cyclone of rather irregular form lying over the British Islands and their neighbourhood, and exceeding 30·1 ins. over the south of Russia; lowest, 29·5 ins. and less, over northern Russia, and 29·9 ins. and less over the north-eastern parts of the Mediterranean. Gradients slight everywhere. Anti-cyclone in north-west moving slightly to eastward later and increasing in height; depression approaching Lapland from the north-westward.

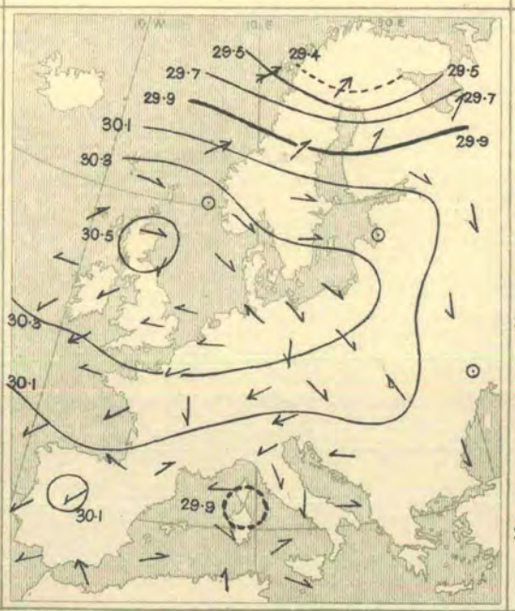
Friday, 7th February.

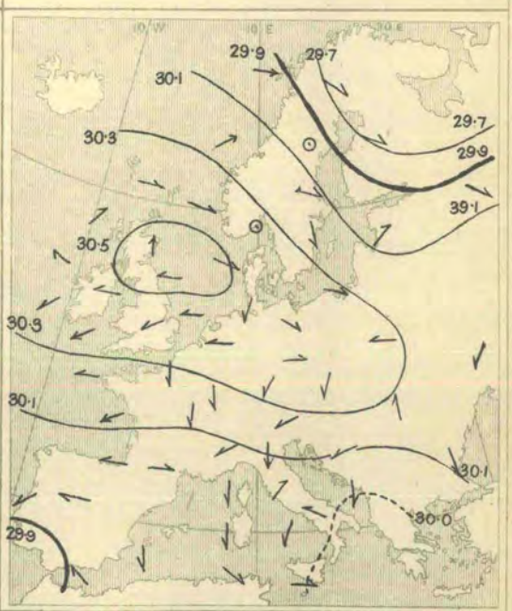
Temperature and Weather. 8 a.m.

Weather fair generally, and in many places clear, but snow reported at Munich, haze or fog in several of the northern parts of the British Islands. Slight rain in Norway later, none at any of the other stations in north-western Europe, but some in the south of France, as well as at Palermo and Constantinople.

Temperature fallen decidedly over the north of Russia, slightly at the more central and southern stations, as well as in the south-western parts of France, and in Scotland; risen elsewhere—slightly over central Europe, decidedly over England, rapidly at the northern extremity of the Gulf of Bothnia. Morning readings below 50°, except at Brindisi and Malta, below 40° in most places, and below the freezing point at most inland stations. Lowest readings, − 1° Faht. at Archangel, + 8° at St. Petersburg, 14° at Hermanstadt, 18° at Kharkov, 26° at Munich, 28° at Leith and Brussels, 30° at Berlin and Paris.

Barometer and Wind. 8 a.m. 6 p.m.





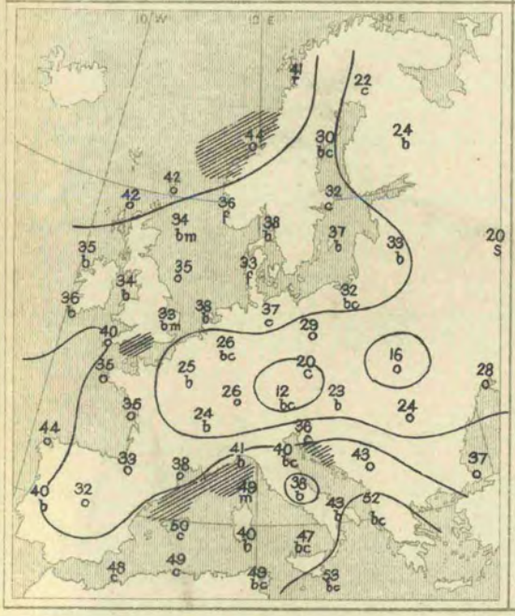
Wind Westerly and South-Westerly over the northern countries, including Scotland; Northerly over Poland, eastern Prussia, and Austria; North-Easterly to Easterly in nearly all other places, and blowing strongly in the English Channel. Very variable over the southern parts of the Mediterranean and light in force. Not much change in our Islands later, but wind veering to North-West over Lapland.

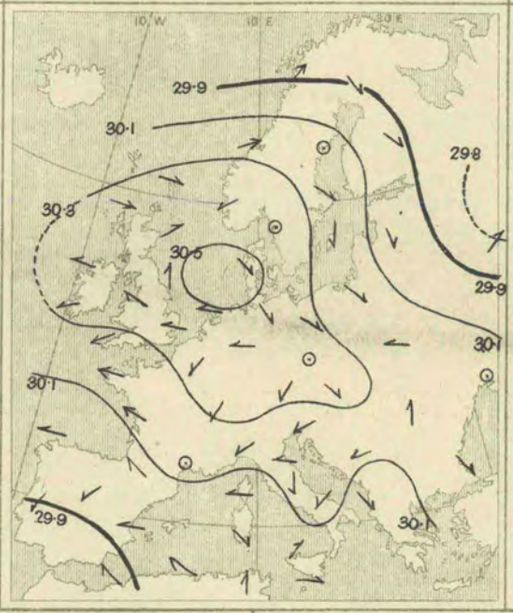
Barometer highest, 30·3 ins. to 30·5 ins., over the whole of the British Islands, the Netherlands, north Germany, and the most southern parts of Scandinavia; lowest, 29·4 ins. and less, in a depression over Lapland, and about 29·9 ins. in a shallow disturbance over Corsica and the north of Sardinia. Gradients slight except in the far north. The northern depression moving south-eastwards later, and barometer falling over Russia, rising fast over Scandinavia. New low pressure area encroaching on south-western coast of Spain.

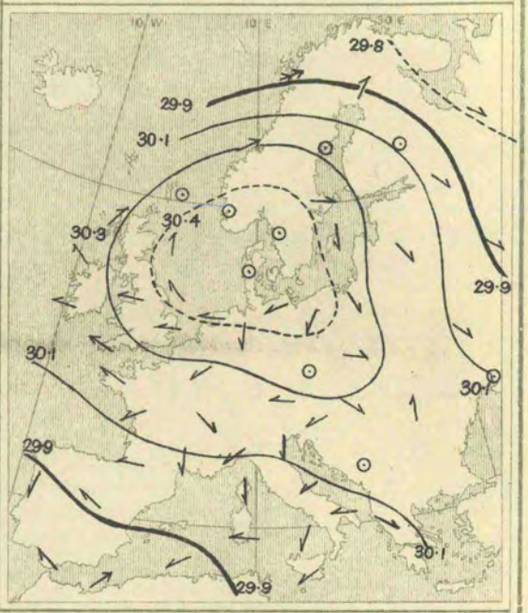
Judd & Co Lte Lith. 73 & 75. Farringdon Rd & Doctors Commons.

Saturday, 8th February.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather fine generally, but dull in Russia and the west of Norway, with snow at Moscow and rain at Bodö; haze reported in many parts of Great Britain and fog on the eastern shores of the North Sea. Subsequently becoming dull and rainy at many of the Italian stations.

Temperature risen a little over Scandinavia and Russia, as well as at some of the Mediterranean stations, but fallen elsewhere—several degrees over southern Germany. Morning readings very little above zero over central Russia, and below the freezing point in the central parts of most other countries, but thermometer reaching 50°, or a little above, at some of the Mediterranean stations; lowest readings, 12° at Munich, 16° at Lemberg, and 20° at Uleaborg and Moscow; highest, 58° at Malta and 52° at Brindisi.

Wind Easterly over the greater part of England, Ireland, France, and southern Europe, fresh or strong in force over the Channel and Bay of Biscay, strong from the South-Westward in the west of Norway, light to moderate from the North-Westward or Northward over Sweden, Finland, and the Baltic, variable over Austria and the south of Russia. Subsequently increasing to a moderate gale from East-South-East at the mouth of the English Channel.

Barometer highest, 30·3 ins. to 30·5 ins., in a large anti-cyclone extending eastward from our Islands and the North Sea to Germany and the south of Austria; lowest, 29·8 ins. and less, over northern Russia and also over Morocco. Gradients moderate over the north of Scandinavia, but slight elsewhere. Somewhat decided fall of barometer taking place during day on the west coasts of our Islands; little change observed elsewhere.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ➤⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week pressure was highest over the south-western, southern, and south-eastern parts of Europe and the Mediterranean; lowest over Scotland, the North Sea, Baltic, and Northern Russia, in which latter regions there were large depressions moving eastwards. Gradually the last-named systems disappeared and the high-pressure system moved northwards. On Wednesday a new anti-cyclone reached our western coasts, and, moving very slowly to the eastward, reached the North Sea on Friday night, where it increased in size and intensity, and became the dominant system of nearly the whole of the Continent and the British Islands. Large depressions, however, again appeared in the far north on Friday, and small disturbances over the Mediterranean. Over Algeria and the south of Spain the barometer began to fall slowly but decidedly towards the close of the week.

Judd & Co Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 7.] *Third Series.* WEEK ENDING SATURDAY, 15TH FEBRUARY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. of this Series.

Temperature of the Air.

	DISTRICTS. (See p 38.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	51	18	42·6	31·0	36·8	2 below.	2	− 6	39	+11	82	+40	178	− 47
	1. SCOTLAND, EAST -	48	12	39·8	28·2	34·0	4 below.	0	−11	56	+24	87	+40	223	− 52
	2. ENGLAND, N.E. - -	44	27	40·5	33·5	37·1	2 below.	0	−11	34	+ 6	85	+36	183	− 69
	3. ENGLAND, EAST -	48	23	41·0	31·2	36·1	4 below.	0	−14	41	+13	94	+33	226	− 42
	4. MIDLAND COUNTIES	47	23	40·1	29·2	34·7	5 below.	0	−15	51	+24	106	+34	233	− 29
	5. ENGLAND, SOUTH -	47	27	41·8	32·1	37·0	4 below.	0	−17	35	+15	133	+52	146	− 60
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	48	19	40·4	31·0	35·7	4 below.	0	−12	44	+22	101	+35	142	− 62
	7. ENGLAND, N.W. -	51	24	39·5	31·3	35·4	5 below.	0	−12	46	+24	100	+37	149	− 58
	8. ENGLAND, S.W. -	48	22	42·8	33·3	38·1	5 below.	2	−19	31	+20	153	+28	125	+ 6
	9. IRELAND, NORTH -	50	24	41·7	32·5	37·2	4 below.	0	−16	34	+14	107	+18	149	− 32
	10. IRELAND, SOUTH -	52	23	44·6	35·2	40·0	3 below.	7	−16	26	+13	163	+20	111	− 9
	— CHANNEL ISLANDS -	50	34	47·2	38·1	42·7	2 below.	21	− 4	11	+ 7	224	+73	40	− 21

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 38.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	2	3	4 less.	35	+ 1	8·7	− 0·6	26	40	64	+ 6	17	+ 2
	1. SCOTLAND, EAST -	2	5	1 less.	27	+ 3	5·3	+ 0·7	8	13	81	− 7	21	− 2
	2. ENGLAND, N.E. - -	2	7	2 more.	24	− 1	2·7	− 0·6	11	17	80	+26	20	+ 7
	3. ENGLAND, EAST -	3	5	1 more.	29	+ 3	3·0	− 0·2	29	43	114	+32	28	+ 8
	4. MIDLAND COUNTIES-	3	4	2 less.	27	+ 1	3·6	− 0·5	16	24	91	+22	22	+ 6
	5. ENGLAND, SOUTH -	3	7	1 more.	27	+ 1	3·9	− 0·5	21	32	94	+23	22	+ 6
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	1	1	9 less.	33	+ 2	8·9*	− 1·1	7	11	65	+ 5	17	+ 2
	7. ENGLAND, N.W. - -	1	2	5 less.	32	+ 5	5·1	0·0	20	31	82	+21	20	+ 5
	8. ENGLAND, S.W. - -	2	3	8 less.	31	+ 2	6·1	− 1·1	16	24	100	+17	24	+ 4
	9. IRELAND, NORTH -	2	2	6 less.	34	+ 2	5·4	+ 0·1	15	23	96	+15	24	+ 4
	10. IRELAND, SOUTH -	4	10	1 more.	35	+ 3	8·0	+ 1·3	17	26	109	+17	27	+ 5
	— CHANNEL ISLANDS -	4	11	4 more.	36	+ 4	5·7	+ 0·2	34	49	123	+ 5	28	+ 1

General Remarks.

Weather was fair during the earlier half of the week, but subsequently became cloudy and unsettled, with heavy falls of rain in the southern and eastern portions of the Kingdom. Snow or sleet fell in many parts of Great Britain on the night of the 14th or on the 15th.

Temperature has been below the mean, the deficit ranging from 2° in "Scotland N.," "England N.E.," and the Channel Islands, to 5° in the western and central parts of England. The highest readings were observed between the 10th and 12th, when the thermometer rose to between 47° and 51° in most districts; in "England N.E.," however, it never exceeded 44°. The lowest readings, which were recorded on very irregular dates, ranged from 12° in "Scotland E." (at Braemar), 18° in "Scotland N.," and 19° in "Scotland W.," to 27° in "England N.E." and "England S.," and 34° in the "Channel Islands."

Rainfall has been more than the mean in "England N.E.," "England E.," "England S.," "Ireland S.," and the "Channel Islands," but less elsewhere. In the western parts of Great Britain the aggregate fall has been very slight.

Bright Sunshine has been, upon the whole, far less prevalent than it was during the preceding week. The percentage of the possible amount of duration ranged from 11 in "Scotland W." and 13 in "Scotland E." to 40 in "Scotland N.," 43 in "England E.," and 49 in the "Channel Islands."

Barometer and Wind.—During the early part of the week a large anti-cyclone extended over our Islands from Germany and the Baltic, and the prevailing winds were South-Easterly. After the 11th, however, the anti-cyclone moved eastwards, while depressions appeared over our south-western and southern coasts. The South-Easterly wind consequently increased in force on our north and east coasts, while on the 13th a severe gale from West to North-West was experienced at the mouth of the Channel. At the close of the week a rather deep depression advanced across the Channel and south-east of England from the south-westward, occasioning South-Easterly and Easterly gales on all the east coasts of Great Britain.

* This value has been altered slightly in consequence of the receipt of further information.

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III. – DATA from which the SUMMARY on page 37 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	45	37	42·3	38·1	40·2	+1·2	1	14	3	0·39	−0·43	*	*
	Stornoway	47	27	43·9	34·5	39·1	−0·2	5	28	1	0·02	−0·98	21·0	33
	Wick	43	30	42·3	33·9	38·1	−0·8	1	29	2	0·28	−0·22	*	*
	Lairg Ⓢ	46	18	41·0	24·1	32·6	−4·8	0	66	1	0·80	0·00	*	*
	Glencarron Ⓢ	51	24	43·2	27·6	35·4	−2·4	3	51	1	0·07†	−1·66	?	?
	Fort Augustus Ⓢ	48	21	42·9	27·8	35·4	−3·4	3	51	2	0·04†	?	30·2	47
1. SCOTLAND, E.	Nairn	48	21	43·1	25·6	34·4	−4·4	3	59	1	0·05	−0·34	*	*
	Aberdeen	43	31	40·7	35·7	38·2	−0·1	0	27	4	0·46	−0·15	2·2	3
	Braemar Ⓢ	42	12	37·9	23·5	30·7	−4·1	0	79	2	0·81	0·00	14·0‡	22‡
	Ochtertyre Ⓢ	42	23	39·0	27·1	33·1	−4·9	0	62	1	0·44	−1·67	*	*
	Leith	43	24	40·1	28·4	34·3	−5·0	0	54	1	0·48	+0·08	*	*
	Marchmont Ⓢ	42	26	38·0	28·6	33·3	−3·6	0	61	2	0·99	+0·36	8·5	13
2. ENGLAND, N.E.	Alnwick Castle	41	27	39·4	33·3	36·4	−2·6	0	39	3	1·13	+0·55	*	*
	Durham	42	29	40·2	31·0	35·6	−3·4	0	45	2	0·84	+0·39	9·6	15
	Shields	42	32	41·0	33·9	37·5	−1·9	0	32	2	0·65	+0·24	*	*
	Scarborough Ⓜ	41	33	39·7	34·8	37·5	−1·5	0	32	2	0·76	+0·31	9·1‡	14‡
	York	44	29	41·7	31·9	36·8	−2·7	0	36	2	0·49	+0·02	14·0	21
	Spurn Head	44	34	40·9	36·0	38·5	−0·7	0	25	2	0·34	?	*	*
3. ENGLAND, E.	Hillington Ⓜ	45	26	41·2	31·3	36·3	−2·9	0	40	2	0·36	−0·12	28·9	43
	Yarmouth	41	33	39·4	34·4	36·9	−3·5	0	36	2	0·41	−0·09	*	*
	Geldeston	44	29	41·5	33·5	37·5	−3·2	0	32	3	0·42	+0·01	30·9	46
	Cambridge	48	23	43·1	27·1	35·1	−5·1	3	53	2	0·59	+0·19	27·0	40
	Rothamsted	43	26	40·0	29·9	35·0	−4·7	0	49	4	0·64	+0·06	*	*
	Ingatestone	43	29	40·7	30·9	35·8	−4·4	0	43	2	0·77	+0·37	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	45	23	42·3	29·4	35·9	−4·2	1	45	2	0·09	−0·33	12·3‡	18
	Loughborough	47	27	41·4	30·1	35·8	−4·0	0	43	2	0·52	+0·03	16·1‡	24
	Cheadle Ⓜ	42	27	38·0	30·2	34·1	−5·0	0	55	2	0·38	−0·33	*	*
	Churchstoke Ⓜ													
	Hereford Ⓜ	46	25	39·0	28·3	33·7	−7·1	0	58	3	0·27	−0·33	*	*
	Cirencester	42	25	39·6	28·4	34·0	−5·8	0	56	3	0·37	−0·34	16·8	25
	Oxford	44	26	40·4	28·9	34·7	−5·8	0	51	3	0·67	+0·16	19·9	30
5. ENGLAND, S.	London	47	30	42·6	31·4	37·0	−4·1	2	38	3	0·93	+0·45	16·6‡	24
	Strathfield Turgiss Ⓜ	45	27	41·2	29·3	35·3	−5·5	0	47	3	0·85	+0·29	*	*
	Dungeness	44	32	42·3	33·6	38·0	−3·8	1	30	3	0·66	+0·13	33·5‡	49‡
	Hastings (St. Leonards)	44	32	42·3	33·8	38·1	−3·4	1	29	3	0·90	+0·35	33·9	50
	Southampton	45	29	42·3	31·6	37·0	−4·3	1	37	3	0·65	−0·07	24·2	36
	Hurst Castle	45	34	42·4	34·9	38·7	−3·5	1	25	2	0·60	−0·05	*	*
	Stowell Ⓜ	43	27	39·5	29·9	34·7	−6·3	0	51	4	0·37	?	10·6‡	16
6. SCOTLAND, W.	Laudale (Loch Sunart)	48	32	42·8	33·5	38·2	−1·6	2	31	1	0·02†	−2·14	*	*
	Glasgow	45	29	39·0	30·8	34·9	−4·3	0	50	1	0·13	−0·82	6·6	10
	Ardrossan	46	28	40·4	30·3	35·4	−4·1	0	46	0	—	−0·88	*	*
	Glenlee Ⓢ	44	19	39·7	25·7	32·7	−5·3	0	65	2	0·08	−1·33	*	*
	Douglas (Isle of Man)	42	31	40·2	34·8	37·5	−3·5	0	32	1	0·05	−0·92	7·8	12
7. ENGLAND, N.W.	Newton Reigny	43	24	38·6	28·3	33·5	−4·8	0	60	1	0·22	−0·58	26·7	41
	Stonyhurst	39	29	38·0	31·3	34·7	−4·8	0	51	2	0·25	−0·71	12·5	19
	Blackpool Ⓜ	40	29	39·2	32·4	35·8	−5·4	0	43	0	—	−0·63	10·2	15
	Manchester	43	30	39·6	32·1	35·9	−4·2	0	43	2	0·15	−0·46	*	*
	Liverpool Obsy. (Bidston)	40	29	37·9	30·7	34·3	−6·9	0	54	1	0·15	−0·32	*	*
	Llandudno Ⓜ	43	29	40·1	31·6	35·9	−6·3	0	43	1	0·32	−0·29	31·7	47
	Holyhead	51	32	43·4	32·4	37·9	−5·1	4	35	1	0·11	−0·63	*	*
8. ENGLAND, S.W.	Llandovery	45	22	40·9	28·7	34·8	−6·9	0	50	2	0·09	−1·08	*	*
	Pembroke	44	32	42·4	34·3	38·4	−5·1	1	28	1	0·01	−0·79	12·9	19
	Arlington (N. Devon)	46	27	41·0	30·7	35·9	−5·5	0	43	2	0·39	−0·87	*	*
	Cullompton Ⓜ	46	27	42·0	31·2	36·6	−5·4	0	38	2	0·13	−0·70	12·1	18
	Falmouth	48	36	45·1	38·4	41·8	−2·2	9	15	3	0·78	−0·40	13·4	20
	Plymouth	48	32	44·0	34·1	39·1	−4·4	6	29	2	0·14	−0·73	25·5	37
	Prawle Point	47	32	43·9	36·0	40·0	−3·1	5	23	2	0·25	?	*	*
9. IRELAND, N.	Malin Head	47	32	41·1	33·7	37·4	−3·0	0	32	2	0·06	?	*	*
	Londonderry	50	29	42·0	31·1	36·6	−4·0	0	38	3	0·07	−0·68	*	*
	Mullaghmore	47	33	42·4	34·9	38·7	−2·5	1	25	1	0·01	−0·88	*	*
	Belmullet	49	31	43·9	33·7	38·8	−4·7	5	30	4	0·79	?	*	*
	Markree Castle	47	24	40·9	30·3	35·6	−4·8	0	45	1	0·06	−0·64	15·0	23
	Brookeborough	47	28	40·3	30·5	35·4	−4·4	0	46	1	0·08	?	*	*
	Armagh	46	31	41·5	33·7	37·6	−3·3	0	31	2	0·17	−0·48	15·5	23
	Donaghadee	47	31	42·9	35·9	39·4	−1·6	3	22	2	0·06	−0·63	*	*
	Edgeworthstown	46	25	40·6	29·1	34·9	−5·1	0	50	3	0·08	−0·73	*	*
10. IRELAND, S.	Dublin	46	31	42·3	35·5	38·9	−3·1	1	23	1	0·10	−0·49	12·2	18
	Parsonstown	50	23	43·0	31·9	37·5	−3·4	3	36	3	0·18	−0·43	12·1	18
	Kilkenny	48	25	43·3	33·1	38·2	−2·8	4	32	2	0·40	−0·34	*	*
	Waterford	49	31	44·8	34·8	39·8	−3·7	8	27	4	0·77	−0·23	*	*
	Roche's Point	48	33	45·4	38·3	41·9	−2·1	10	16	5	2·75	+1·65	*	*
	Valencia	51	37	48·9	39·0	44·0	−1·3	27	8	6	1·26	−0·06	27·9	42
	Killarney	52	28	45·6	34·7	40·2	−3·4	10	28	6	1·41	?	*	*
	Foynes	50	31	43·6	34·5	39·1	−2·7	4	28	5	0·83	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	50	38	48·3	41·1	44·7	−1·3	23	3	4	0·71	−0·05	*	*
	Jersey	49	34	46·1	35·0	40·6	−2·3	11	28	4	1·56	+0·88	33·7	49

Stations marked Ⓜ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

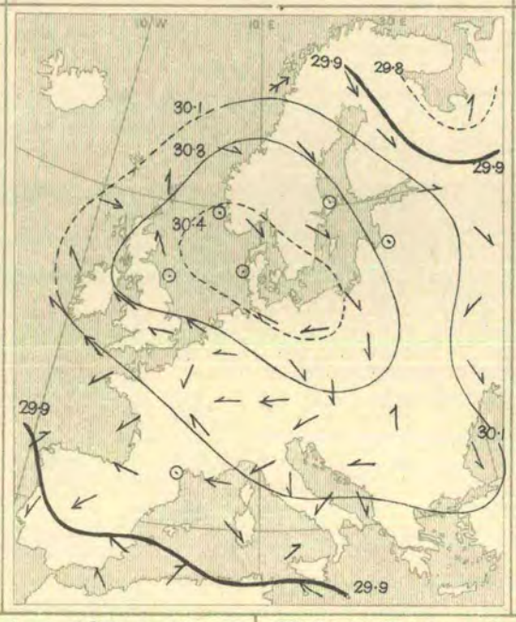
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

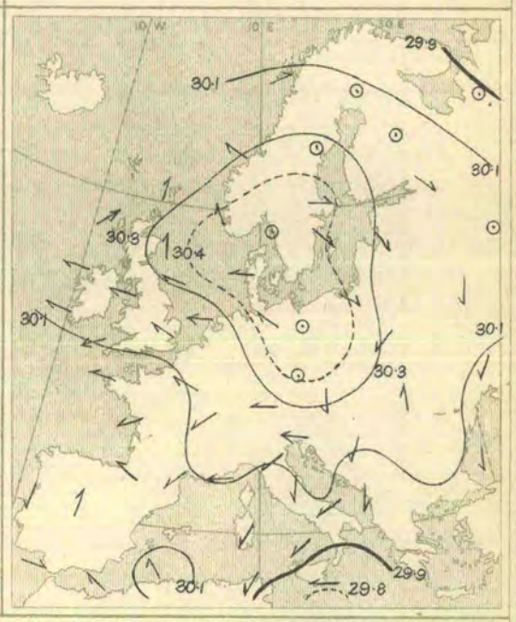
Sunday, 9th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over France, the Bay of Biscay, and several parts of Italy, as well as on the eastern shores of the North Sea, the northern parts of our Islands, and in Sweden; cloudy more or less elsewhere, but dry in most places, continuing fair over the British Islands during day, but considerable quantities of rain on the shores of the Gulf of Lion and in some parts of Tunis.

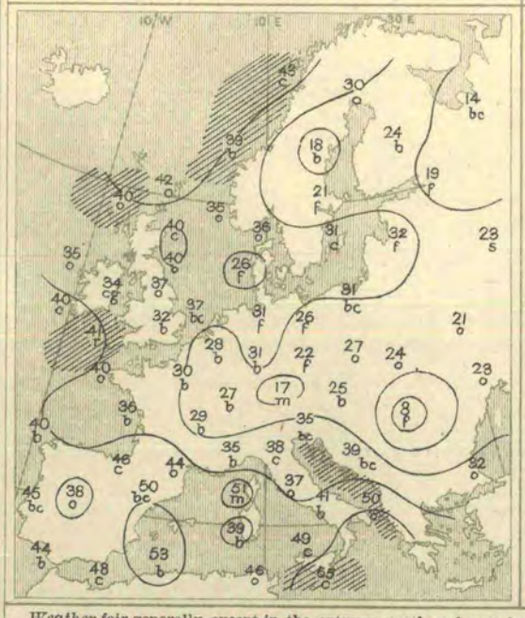
Temperature highest on the Atlantic coasts of Europe and the British Islands; 45° at Scilly, 44° at Valencia, and exceeding 40° at Bodö, Christiansund, Sumburgh Head, Stornoway, Corunna, and Lisbon; exceeding 50° at Algiers, Malta, and Brindisi. Lowest over Russia and south Germany; 17° at Munich, 21° at Buda-Pesth, 23° at Kiev, and 25° at Moscow and Hangö. As low as 20° at St. Petersburg and Archangel. Falling short of 60° over the south of Italy during the day, but rising to considerably above that value in Algiers.

Wind mainly Easterly over the southern half of Europe—moderate generally, but fresh to strong in some places. South-Easterly on our north-western coasts, Southerly in Scotland, South-Westerly over the northern parts of Norway, and North-westerly over Finland. Tending to veer somewhat over England and Ireland later, and freshening both in the Channel and at the Irish stations.

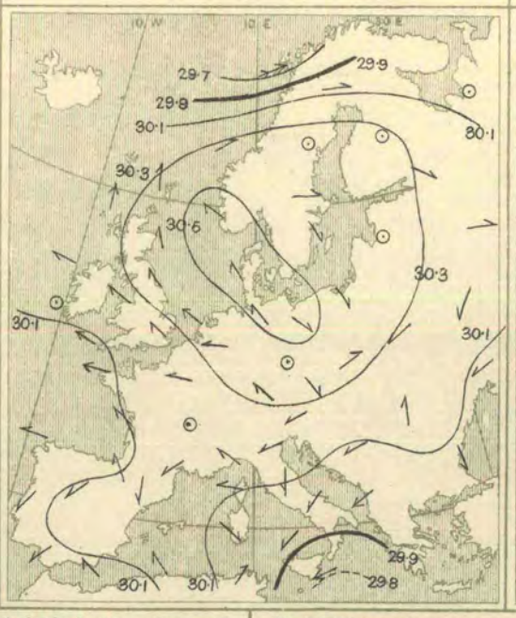
Barometer 30·3 ins. to nearly 30·5 ins., in large anti-cyclone, the centre of which lay over Denmark; lowest, 29·8 ins. and less, in a depression lying over the White Sea, and 29·9 ins. and less in the west and south of the Iberian Peninsula, as well as over Algeria and Tunis. Falling somewhat over the British Islands at first, subsequently rising again. Anti-cyclone moving slightly further to the eastward and increasing considerably in size.

Monday, 10th February.

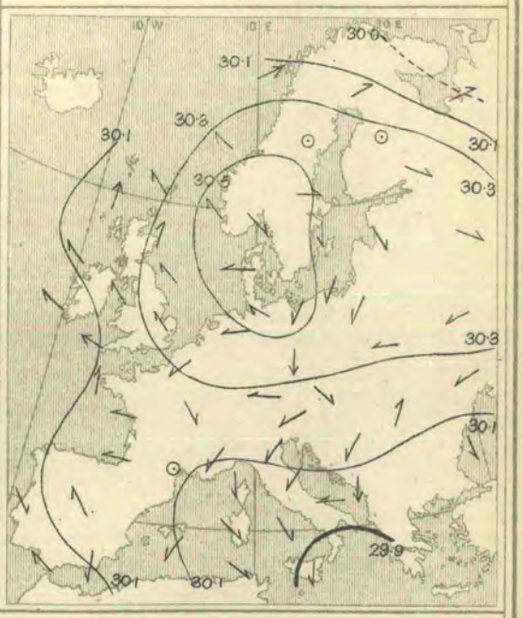
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair generally, except in the extreme north and east, but cloudy in many places, with rain at one or two of our south-western stations, snow at Moscow. A considerable fall of rain during the day at Scilly, Roches Point, and Bodö, and small quantities at some other of the Irish stations; local fall at Palermo.

Temperature in morning 50° or more at Brindisi, Malta, Algiers, Barcelona, and Sanguinaire, 40° or more at many stations on the Atlantic coasts, 43° even as far north as at Bodö. Lowest over Hungary, south Germany, and the north of Russia; lowest, (1) 8° at Hermanstadt, 17° at Munich, and 21° at Kiev; (2) 14° at Archangel, 18° at Hernosand, 19° at St. Petersburg, 22° at Moscow. Rising decidedly in the west of France and the British Isles later, and exceeding 60° at some Spanish stations, but cold at night over England and the Continent.

Wind light to moderate in force, anti-cyclonic in direction, mainly Easterly to North-Easterly at the southern and south-western stations, South-Easterly to Southerly over the British Islands and North Sea, South-Westerly to Westerly over the north of Scandinavia, Northerly over the Baltic, North Germany, and Poland. The South-Easterly wind freshening later, especially at our south-western stations.

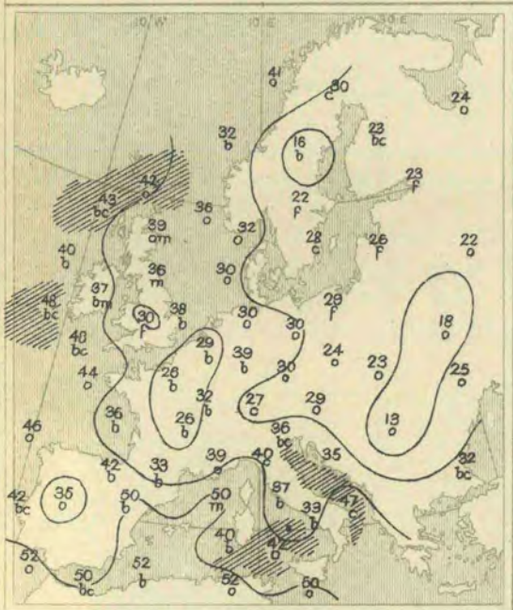
Barometer highest, 30·2 ins. to 30·5 ins. and more, in an anti-cyclone covering the greater part of Europe, and having its central area over Denmark, the south of Norway, and north Germany; lowest, 29·7 ins. and less, in a depression over Finmark, 29·8 ins. and less in another over the south-eastern parts of the Mediterranean, and apparently 30·0 ins. and less in a shallow system over the Atlantic to the south-west of our Islands. Northern depression travelling away northwards later, that in the west moving northwards towards our western coasts.

Judd & Cº Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

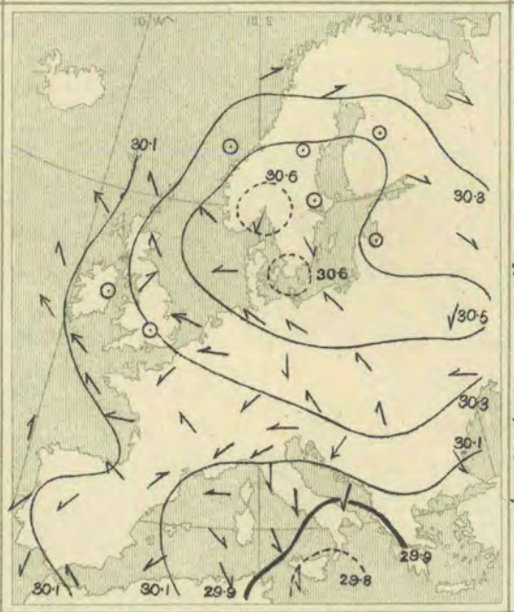
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 11th February.

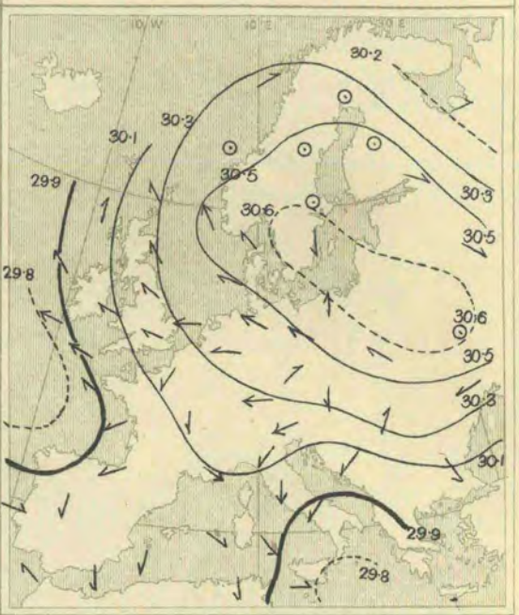
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine generally over western and southern Europe, as well as in Sweden and Finland, cloudy or overcast elsewhere, foggy in the Baltic Provinces. Snow and rain in the Riviera and south of France later, rain at Brest and Valencia, and weather becoming squally and unsettled in the north-east of Scotland; continuing fine in other parts of our Islands.

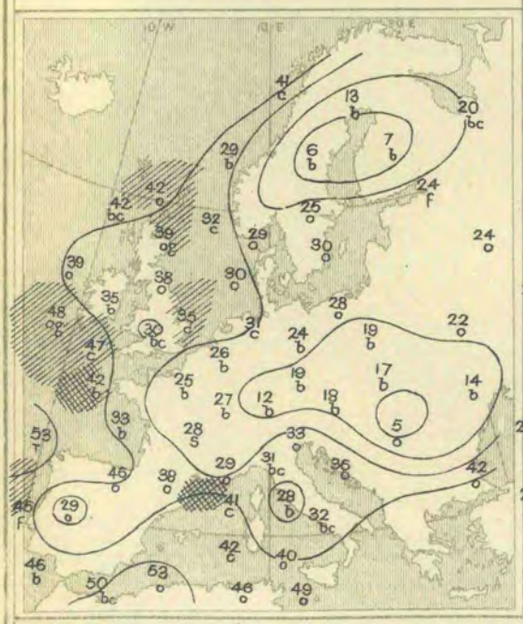
Temperature risen considerably over Scotland and Ireland, fallen over southern Russia, the south-west of France, and south of Italy. Exceeding 50° at San Fernando and on the Algerian coast only; below 40° in most places, and below the freezing point over all the inland parts of the Continent and England; lowest of all, 13° at Hermanstadt, 18° at Kiev and Kharkov, 16° at Hernösand, 17° at Hangö, 26° at Paris. Rising decidedly over England during the day, falling fast again at night.

Wind still anti-cyclonic; Easterly over the northern parts of the Mediterranean, South-Easterly over the Bay of Biscay and western parts of our Islands, Southerly in Scotland, Westerly in Lapland and the north of Russia. A cyclonic Northerly wind prevalent in the south of Italy, Sicily, and Malta; South-Easterly wind increasing considerably in force at our western and northern stations later.

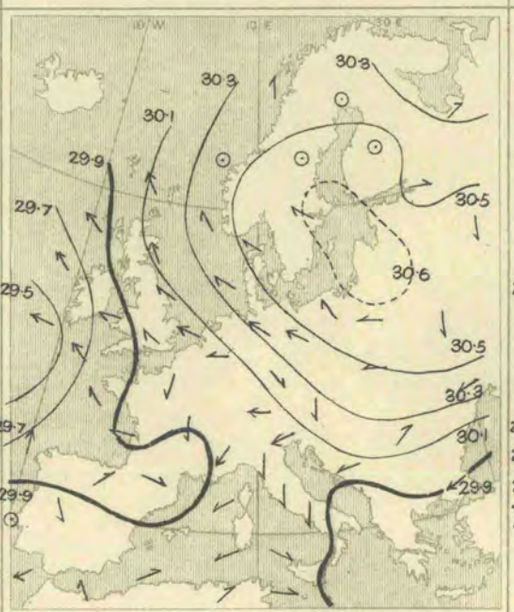
Barometer highest, 30·4 ins. to 30·6 ins., in an anti-cyclone covering nearly the whole of northern, eastern, and central Europe, and varying from 30·0 ins. to nearly 30·4 ins. in a "ridge" extending thence across the British Islands; lowest, 29·8 ins. and less, in a depression lying over the south-eastern parts of the Mediterranean, less than 30·0 ins. off the south-west of Ireland, and less than 30·2 ins. over the White Sea and north of Russia. Falling decidedly in the west and south-west of our Islands later, and gradients for South-Easterly winds increasing over western Europe generally.

Wednesday, 12th February.

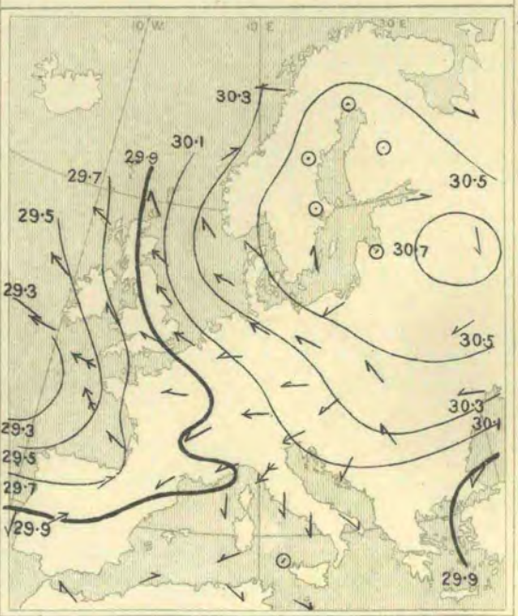
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull in the north-east of Great Britain, as well as over central Russia and the southern parts of France and Austria; snow falling at Lyons, Toulon, Marseilles, and Turin. Fine in nearly all other localities, but foggy over the Gulf of Finland, and also in the Christiania Fiord. Rain later at our south-western stations and over France and Portugal, heavy in the south of Ireland, and very heavy indeed at Cette.

Temperature highest, 45° to 50°, or a little more, on the coasts of the Iberian Peninsular and the southern shores of the Mediterranean (Corunna and Algiers 53°, Oran 50°, Barcelona and Malta 49°); lowest, 5° at Hermanstadt, 6° at Hernösand, 7° at Kuopio, 10° at Nicolaieff, 12° at Munich, and 13° at Haparanda; below the freezing point at nearly all the Continental stations, as well as over central England. Rising to 60° and more in Algeria and to upwards of 50° at Malta during day, but becoming cold at night over eastern, northern, and north-western Europe.

Wind South-Easterly in our Islands and their immediate neighbourhood; strong in force in many places, with a moderate gale on our extreme south-western, western, and northern coasts. Light from between East and North over the greater part of southern and central Europe, South-Westerly on the Algerian coasts, calm or variable over the northern parts of Scandinavia and Russia. South-Easterly gale becoming stronger later and spreading down our eastern coast.

Barometer highest, 30·4 ins. and upwards, in a large anti-cyclone lying over Scandinavia, Russia, and the Baltic; 30·0 ins. and upwards in another system lying over the southern parts of the Iberian Peninsular; lowest, 29·5 ins. and less, in a depression lying to the south-westward of Ireland. Gradients rather steep over the western parts of the United Kingdom. Barometer falling at all but the Russian stations. Depression in south-west subsequently spreading eastwards and approaching Ireland; barometer falling decidedly in our Islands.

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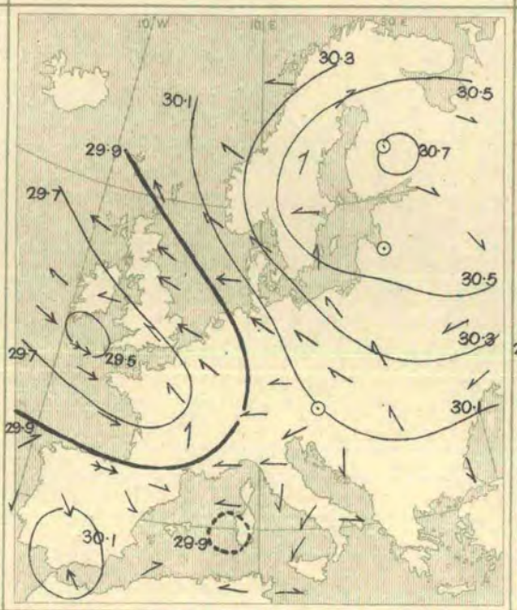
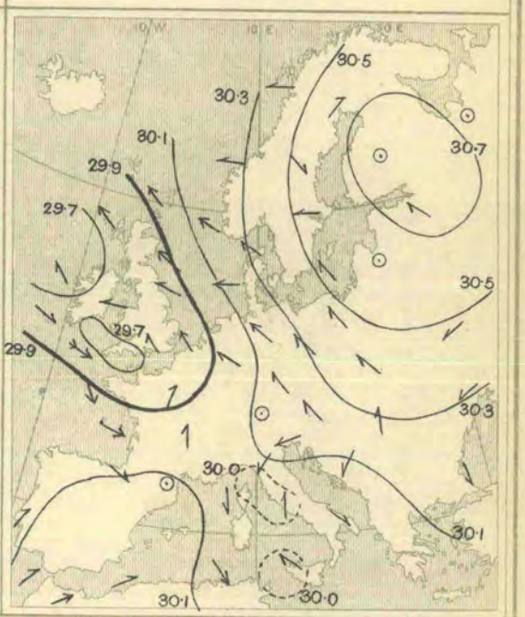
Thursday, 13th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather still fine and bright over Norway, Denmark, Germany, many parts of England, and Spain; cloudy or overcast elsewhere, and less fair than of late in many places. Heavy rain at Roches Point, showers at several other of our south-western stations and in the south-west of France, snow at Belmullet, Haparanda, and at Toulon. Rain later at all our south-western and southern stations, and also over France, heavy at Roches Point, and a considerable fall at Palermo; slight hail showers at some Scotch stations, thunderstorms in the south-west of France.

Temperature risen rapidly over Sweden and Finland, less decidedly in France and Spain. Highest, 50° and more, at Malta, Algiers, and Barcelona, 48° at Corunna, 47° at Lisbon and Rochefort, 46° at Brest, 44° at Scilly, and 43° at Valencia; below the freezing point all over Russia, Germany, central France, and our south-midland counties; lowest morning values, (1) 11° at Kuopio and Moscow, 18° at Nicolaieff, 19° at Archangel, Kharkov, Kiev, Odessa, and Cracow; (2) 13° at Munich, 26° at Vienna and Prague, 23° at Berlin, and 26° at Wiesbaden. Rising to 60° and more over Spain and Algeria later.

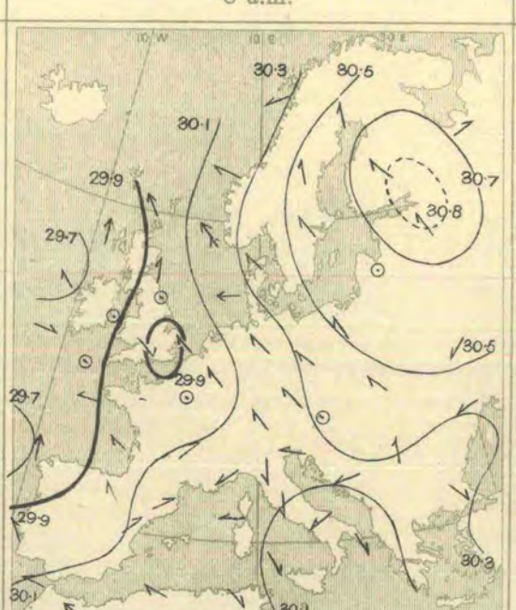
Wind Westerly over Spain, North-Westerly over the Bay of Biscay, at Scilly, and Valencia, and blowing a gale in most places; still Easterly to South-Easterly over Germany, the North Sea, Great Britain, and the north of Ireland—strong to a gale; Southerly in Sweden, North-Westerly (light) over Russia, Easterly (moderate to a gale) in the south of France; variable elsewhere. The South-Easterly wind decreasing in force later on, but the West-North-Westerly gale continuing at Scilly till late in evening.

Barometer highest, 30·4 ins. to 30·7 ins., in an anti-cyclone covering Sweden, the Baltic, and northern half of Russia, 29·9 ins. to 30·1 ins. over Spain; lowest (apparently) off our extreme western coast, but 29·5 ins. and less in a local depression at mouth of St. George's Channel and 29·9 ins. in a shallow system over the Mediterranean. Depression off south-west coasts moving eastwards later, and barometer rising fast.

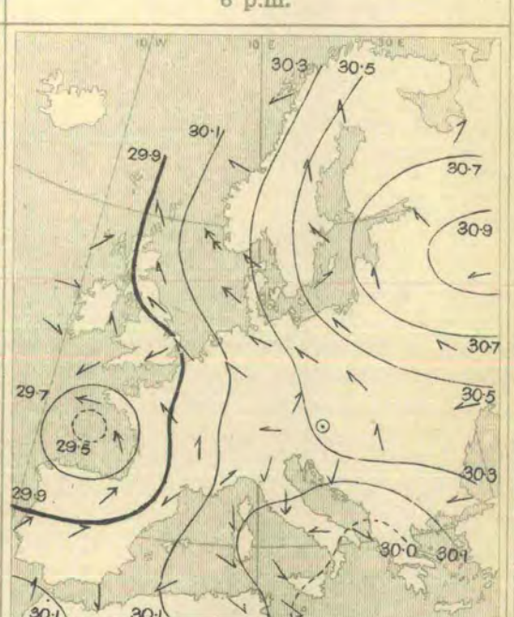
Friday, 14th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Italy, the northern parts of France, the greater part of Germany, and the northern half of Norway; cloudy or overcast in nearly all other places, unsettled in the south-west, south, and south-east of our Islands, with hail and rain in the south of Ireland, and slight rain in the south-east of England. Rain setting in generally in north and west of France later. *Cirrus* cloud seen in several places, with solar halos, and weather unsettled in the south generally. Heavy local fall of rain at Cette.

Temperature changing somewhat fitfully over western Europe; morning readings exceeding 50° on the Algerian and Spanish coasts only, and exceeding 40° in the south of Italy, west of France, and south-west of the British Islands; below the freezing point over northern, eastern, and central Europe, and as low as 5° at Archangel, 8° at Kuopio, 12° at Ulcaborg, 15° at Nicolaieff, 17° at Hermanstadt and Cracow, 19° at Lemberg and Breslau, 20° at Vienna and Munich. Rising fast over France and Algeria later; daily maxima exceeding 70° at some Algerian stations.

Wind very variable; South-Easterly over Scandinavia, the Baltic, and eastern shores of the North Sea, as well as in the north of Ireland; Southerly in Scotland; very light and variable over England, France, and the south-east of Ireland. Southerly winds belonging to a new system setting in at Lisbon and Corunna, and spreading to France later, light Easterly breezes appearing over the Channel.

Barometer highest, 30·3 ins. to 30·8 ins., in a large anti-cyclone covering the northern half of Russia, Scandinavia, eastern Germany, and Austria-Hungary; lowest, 29·8 ins. and less, off the north-west of Ireland and north-west of Spain, and about 30·0 ins. in the extreme south of Italy. Well-formed, but not deep, depression advancing north-eastwards over the Bay of Biscay later, and increasing in intensity.

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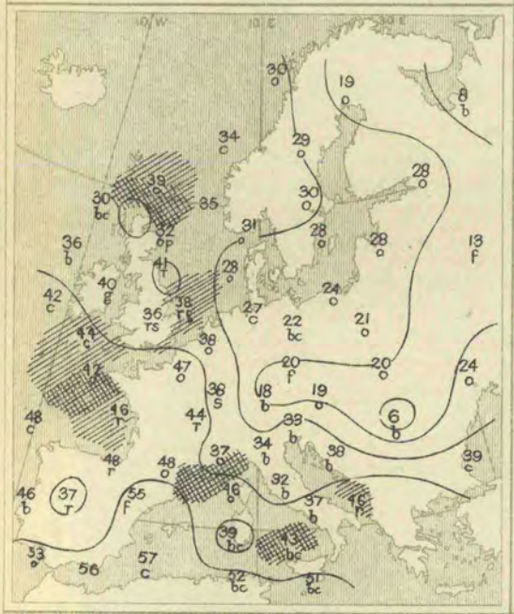
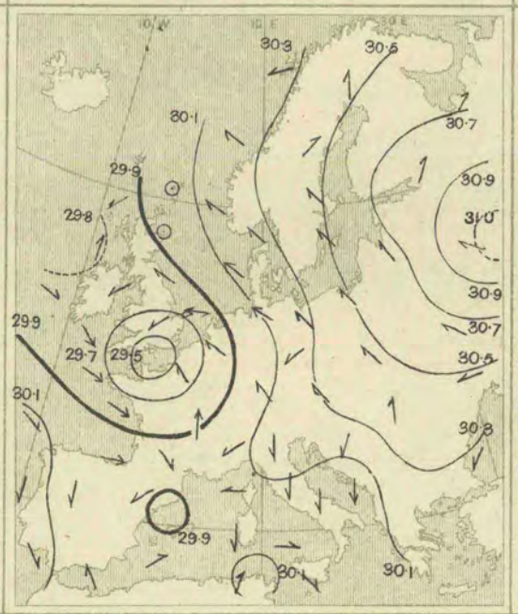
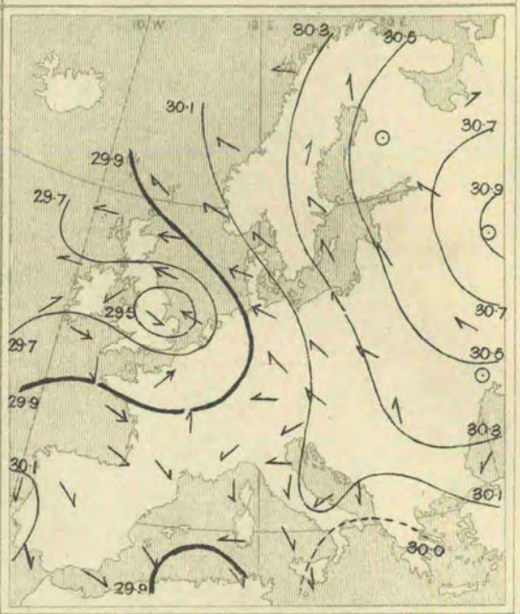
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 15th February.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather cloudy or overcast over the greater part of Europe, with rain and snow at many of the English and French stations, and rain (singly) in some parts of Spain and Italy. Fine in Ireland and Scotland, as well as in Germany, Austria, and northern Italy. Squalls of rain and sleet occurring later in the north and east of Scotland.

Temperature highest, 50° and upwards, over the central and southern parts of the Mediterranean (Algiers 57°, Nemours 56°, Barcelona 55°); high, 45° and upwards, in the west of France and on the coasts of the Iberian peninsula; lowest, 10° or less, over northern Russia and also over southern Austria (Hermanstadt 6°, Archangel 8°); frost prevailing in all parts of northern, eastern, and central Europe, as well as over the central parts of Ireland and Scotland. Daily maxima below 45° in our Islands generally, but thermometer rising above 55° in many parts of southern Europe and above 65° in Algeria.

Wind showing distinct cyclonic circulation over western Europe; North-Westerly wind blowing strongly over the Bay of Biscay and the western part of the Channel, Easterly breeze nearly as strong in the east of England. Moderate from South-Eastward or Southward over Scandinavia, Denmark, the Baltic, and Germany; chiefly Northerly in Spain and Italy, variable in Algeria. Easterly gale setting in towards night on the north and east coasts of Scotland.

Barometer highest, 30·5 ins. to 31·0 ins. or a little more, in a large anti-cyclone lying over Russia (Moscow reading 31·03 ins.); high, 30·1 ins. and upwards, in another area lying over and to the westward of Portugal; lowest, 29·5 ins. and less, in a depression which had advanced from the south-westward to the eastern part of the Channel. Depression moving slowly north-eastward during day and barometer beginning to rise in south of England.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week a large anti-cyclone covered nearly the whole of Europe, the only portions under the influence of low-pressure systems being the extreme north of Russia and south-west of Spain. The central area of the anti-cyclone, in which pressure exceeded 30·4 ins., lay over the countries lying on the eastern side of the North Sea, so that while Easterly and South-Easterly breezes, with fine dry cold weather, prevailed over western Europe and the British Islands, the wind over Russia was Northerly and North-Westerly and of little force. The high-pressure system moved very slowly to the north-eastward and eastward, increasing in intensity as it did so, and on Tuesday a low-pressure area was approaching our south-western coasts and the Bay of Biscay, causing gales from South-East at certain of the Irish and Scotch stations, while Westerly and South-Westerly winds set in over the Iberian Peninsula; rain began to fall both at our south-western stations and in France. Still later in the week two depressions came over the southern parts of our area. Changeable rainy weather spread all over the Kingdom; Westerly to North-Westerly gales and strong winds were felt in many parts of our Islands and France, but South-Easterly breezes still blew in the north and increased to a gale at intervals on various parts of the Scotch coasts.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 8.] *Third Series.* WEEK ENDING SATURDAY, 22ND FEBRUARY, 1890. [*Price* 6*d*. [*Annual subscription, post paid*, £1 10*s*. 0*d*.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 44.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	50	28	43·3	35·7	39·5	1 above.	4	− 5	23	− 5	86	+35	201	− 54
	1. SCOTLAND, EAST -	50	22	41·5	32·9	37·3	1 below.	0	−13	33	+ 2	87	+23	256	− 51
	2. ENGLAND, N.E. - -	47	29	41·3	34·9	38·1	2 below.	0	−13	27	− 1	85	+19	210	− 69
	3. ENGLAND, EAST -	50	30	42·3	34·2	38·3	2 below.	1	−15	28	+ 1	95	+15	254	− 40
	4. MIDLAND COUNTIES	51	29	43·7	33·7	38·7	2 below.	5	−12	30	+ 4	111	+19	263	− 26
	5. ENGLAND, SOUTH -	53	27	45·8	36·9	41·3	1 below.	11	− 8	20	+ 1	144	+44	166	− 60
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	49	30	42·3	35·3	38·8	2 below.	1	−12	24	+ 2	102	+24	166	− 62
	7. ENGLAND, N.W. -	50	27	43·5	35·1	39·3	2 below.	4	− 9	25	+ 4	104	+29	174	− 56
	8. ENGLAND, S.W. -	52	27	48·3	38·9	43·6	1 above.	24	+ 2	9	− 2	177	+31	134	0
	9. IRELAND, NORTH -	52	24	46·2	36·7	41·5	1 above.	12	− 5	22	+ 3	119	+12	171	− 28
	10. IRELAND, SOUTH -	56	25	49·3	39·0	44·2	1 above.	28	+ 4	8	− 4	191	+25	119	− 17
	— CHANNEL ISLANDS -	54	42	52·0	44·3	48·2	2 above.	43	+17	0	− 4	267	+91	40	− 26

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 44.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	4	4	3 less.	39	0	9·1	− 0·7	8	12	72	− 2	16	0
	1. SCOTLAND, EAST -	4	3	4 less.	31	+ 3	5·6	+ 0·3	7	11	88	−30	20	− 6
	2. ENGLAND, N.E. - -	2	2	2 less.	26	− 3	2·9	− 0·9	7	10	87	+15	19	+ 4
	3. ENGLAND, EAST -	1	1	4 less.	30	0	3·1	− 0·6	15	21	129	+32	27	+ 7
	4. MIDLAND COUNTIES-	2	3	3 less.	29	− 1	3·9	− 0·8	9	12	100	+14	21	+ 4
	5. ENGLAND, SOUTH -	2	1	5 less.	29	− 1	4·0	− 0·9	15	22	109	+23	22	+ 5
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	4	4	4 less.	37	+ 2	9·3	− 1·5	5	7	70	− 7	15	− 1
	7. ENGLAND, N.W. - -	3	3	4 less.	35	+ 4	5·4	− 0·4	9	13	91	+13	19	+ 3
	8. ENGLAND, S.W. - -	4	7	2 less.	35	+ 2	6·8	− 1·3	19	26	119	+17	24	+ 4
	9. IRELAND, NORTH -	5	5	3 less.	39	+ 2	5·9	− 0·1	8	12	104	+ 5	22	+ 2
	10. IRELAND, SOUTH -	5	9	0 (average).	40	+ 4	8·9	+ 1·3	11	16	120	+ 7	25	+ 2
	— CHANNEL ISLANDS -	3	9	2 more.	39	+ 2	6·6	+ 0·4	19	26	142	− 2	28	0

General Remarks.

Weather has been dull or gloomy in nearly all parts of the Kingdom, with a good deal of mist or fog; very little rain has fallen over England, but in Ireland, Scotland, and the south-west of England the falls, though slight, have been somewhat frequent.

Temperature has been a little above the mean in "Scotland N.," Ireland, "England S.W.," and the "Channel Islands," but in all other districts a deficit of 1° or 2° is shown. The highest of the maxima, which were recorded on very irregular dates, ranged from 56° in "Ireland S." to 47° in "England N.E." and 49° in "Scotland W." The lowest of the minima were registered in most instances on the 16th, and varied from 22° to 30° in Scotland, from 24° to 25° over Ireland, from 27° to 30° over England. In the "Channel Islands" the thermometer did not fall below 42°.

Rainfall has just equalled the mean in "Ireland S." and slightly exceeded it in the "Channel Islands;" in the other districts it has been less than the normal.

Bright Sunshine shows a very decided decrease at nearly all stations, the percentage of the possible duration having ranged from 7 to 12 in Scotland, from 12 to 16 in Ireland, and from 10 to 26 over England.

Barometer and Wind.—At the commencement of the week two depressions were shown in our neighbourhood—one which had travelled from the southward lay off the north-east of England, while the other had approached rapidly from the Atlantic and lay off the south-west of Ireland. Both these dispersed quickly, and during the remainder of the period the distribution of pressure was generally anti-cyclonic. Moderate or rather steep gradients for South-Easterly winds prevailed during the earlier days; subsequently they became very slight and variable. Fresh to strong winds, generally from the South-Eastward, were consequently experienced during the early part of the week, but towards its close very light airs and calms were reported.

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36 350 2 | 90 607

III. – DATA from which the SUMMARY on page 43 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	46	35	42·4	36·7	39·6	+0·6	1	19	5	0·56	—0·25	*	*
	Stornoway	48	2s	45·1	35·9	40·5	+0·8	9	24	5	0·34	—0·62	9·8	15
	Wick	46	33	42·4	36·3	39·4	+0·4	1	21	5	0·36	—0·14	*	*
	Lairg 𝔖	50	33	42·0	34·1	38·1	+0·7	0	27	4	0·73	—0·06	*	*
	Glencarron 𝔖	48	32	43·7	35·2	39·5	+1·5	5	25	5	0·24†	—1·40	?	?
	Fort Augustus 𝔖	48	32	44·4	35·8	40·1	+1·2	7	23	2	0·07†	?	6·0	9
1. SCOTLAND, E.	Nairn	50	22	44·1	33·6	38·9	—0·2	6	31	2	0·11	—0·29	*	*
	Aberdeen	46	31	41·4	35·3	38·4	—0·3	0	25	5	0·22	—0·39	1·1	2
	Braemar 𝔖	44	22	39·1	30·6	34·9	—0·1	0	50	3	0·39	—0·41	8·5‡	13‡
	Ochtertyre 𝔖	49	27	41·1	32·6	36·9	—1·1	0	36	5	0·58	—0·43	*	*
	Leith	47	30	42·7	33·4	38·1	—1·8	2	31	3	0·15	—0·24	*	*
	Marchmont 𝔖	49	28	40·4	32·1	36·3	—1·2	0	40	3	0·15	—0·46	11·5	17
2. ENGLAND, N.E.	Alnwick Castle	46	31	40·9	34·9	37·9	—1·1	0	29	1	0·10	—0·48	*	*
	Durham	47	29	42·1	33·3	37·7	—1·5	0	31	3	0·12	—0·33	7·9	11
	Shields	47	31	42·1	35·0	38·6	—1·3	0	25	2	0·16	—0·24	*	*
	Scarborough 𝔐	43	33	40·6	34·9	37·8	—2·0	0	29	2	0·90	+0·45	6·1‡	9‡
	York	46	33	41·3	35·3	38·3	—1·6	0	26	2	0·11	—0·35	6·6	10
	Spurn Head	46	34	40·9	35·7	38·3	—1·5	0	26	1	0·02	?	*	*
3. ENGLAND, E.	Hillington 𝔐	46	30	41·3	34·1	37·7	—2·3	0	30	1	0·02	—0·46	12·7	18
	Yarmouth	46	33	40·4	34·4	37·4	—3·5	0	32	1	0·05	—0·45	*	*
	Geldeston	48	31	42·5	35·2	38·9	—2·1	1	25	1	0·07	—0·35	18·9	27
	Cambridge	50	30	43·9	32·7	38·3	—2·5	5	34	1	0·04	—0·36	11·9	17
	Rothamsted	47	31	42·9	34·0	38·5	—1·5	3	29	1	0·02	—0·56	*	*
	Ingatestone	48	33	42·6	34·7	38·7	—2·3	2	26	2	0·08	—0·32	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	47	32	41·6	34·0	37·8	—2·7	0	29	2	0·65	+0·23	5·6‡	8‡
	Loughborough	49	33	43·6	34·6	39·1	—1·2	4	27	1	0·09	—0·40	8·3‡	12‡
	Cheadle 𝔐	45	30	41·3	32·7	37·0	—2·7	0	35	4	0·16	—0·54	*	*
	Churchstoke 𝔐													
	Hereford 𝔐	51	29	45·2	32·3	38·8	—2·3	9	37	4	0·38	—0·32	*	*
	Cirencester	47	30	44·7	33·9	39·3	—0·9	8	30	1	0·15	—0·54	9·8	14
	Oxford	49	33	45·7	34·6	40·2	—0·8	10	29	2	0·04	—0·46	10·6	15
5. ENGLAND, S.	London	51	34	44·7	35·9	40·3	—1·5	8	23	0	—	—0·47	8·6‡	12‡
	Strathfield Turgiss 𝔐	51	32	46·4	34·4	40·4	—1·2	12	30	2	0·05	—0·48	*	*
	Dungeness	48	34	44·6	37·4	41·0	—1·4	7	18	2	0·15	—0·37	20·6‡	29‡
	Hastings (St. Leonards)	48	34	44·3	37·4	40·9	—1·1	6	18	1	0·09	—0·41	19·7	28
	Southampton	53	34	48·4	38·4	43·4	+1·6	25	10	3	0·07	—0·63	19·2	27
	Hurst Castle	47	35	45·9	39·3	42·6	—0·1	16	8	2	0·04	—0·57	*	*
	Stowell 𝔐	51	27	46·2	35·3	40·8	—0·6	12	27	2	0·29	?	8·5‡	12‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	49	36	44·7	37·0	40·9	+0·8	8	20	4	0·19†	—1·96	*	*
	Glasgow	45	33	40·8	35·2	38·0	—1·7	0	28	4	0·32	—0·58	2·3	3
	Ardrossan	44	32	41·7	35·0	38·4	—1·4	0	25	3	0·28	—0·56	*	*
	Glenlee 𝔖	44	30	40·8	33·4	37·1	—1·2	0	34	4	0·49	—0·81	*	*
	Douglas (Isle of Man)	49	31	43·6	35·7	39·7	—1·8	4	24	6	0·85	—0·05	7·5	11
7. ENGLAND, N.W.	Newton Reigny	45	27	40·6	32·3	36·5	—2·3	0	39	4	0·16	—0·58	9·2	13
	Stonyhurst	46	27	42·0	33·2	37·6	—2·2	0	31	3	0·10	—0·85	8·1	12
	Blackpool 𝔐	46	28	43·9	34·2	39·1	—2·4	5	29	4	0·53	—0·08	6·1	9
	Manchester	46	31	42·2	34·7	38·5	—2·0	1	26	2	0·10	—0·50	*	*
	Liverpool Obsy. (Bidston)	48	33	44·1	35·6	39·9	—1·6	6	24	3	0·18	—0·27	*	*
	Llandudno 𝔐	49	35	45·3	37·1	41·2	—1·4	9	19	2	0·34	—0·24	11·3	16
	Holyhead	50	35	46·7	38·4	42·6	—0·5	19	10	5	0·81	+0·11	*	*
8. ENGLAND, S.W.	Llandovery	49	27	47·4	33·7	40·6	—1·6	15	33	5	0·74	—0·37	*	*
	Pembroke	48	37	46·6	40·0	43·3	—0·7	18	6	5	0·43	—0·35	10·1	14
	Arlington (N. Devon)	52	33	49·9	37·9	43·9	+2·1	31	11	5	0·80	—0·42	*	*
	Cullompton 𝔐	51	30	48·8	37·5	43·2	+1·0	27	13	4	1·24	+0·42	14·7	21
	Falmouth	51	35	49·6	41·2	45·4	+1·4	27	2	4	0·49	—0·59	25·2	33
	Plymouth	51	35	49·8	40·2	45·0	+1·2	29	5	4	1·05	+0·24	25·8	36
	Prawle Point	49	36	46·3	41·7	44·0	+0·6	15	1	2	0·40	?	*	*
9. IRELAND, N.	Malin Head	49	33	45·4	37·7	41·6	+0·9	10	18	4	0·32	?	*	*
	Londonderry	51	32	46·0	37·2	41·6	+0·9	11	20	4	0·37	—0·33	*	*
	Mullaghmore	50	26	46·6	37·4	42·0	+0·9	13	13	6	0·16	—0·72	*	*
	Belmullet	52	30	48·0	37·9	43·0	—0·5	24	11	4	0·24	?	*	*
	Markree Castle	51	24	47·5	35·6	41·6	+1·2	15	27	4	0·19	—0·49	9·3	13
	Brookeborough	52	29	46·1	36·1	41·1	+1·3	11	24	4	0·77	?	*	*
	Armagh	52	32	46·1	37·5	41·8	+0·3	11	19	4	0·50	—0·13	7·0	10
	Donaghadee	50	33	45·3	36·7	41·0	—0·2	9	21	6	1·06	+0·40	*	*
	Edgeworthstown	50	24	44·7	34·4	39·6	—0·6	8	29	6	0·68	—0·14	*	*
10. IRELAND, S.	Dublin	50	28	47·5	38·8	43·2	+0·8	22	9	3	0·52	—0·06	4·4	6
	Parsonstown	54	25	48·7	35·7	42·2	+1·0	28	18	5	0·42	—0·18	9·3	13
	Kilkenny	55	29	49·3	36·9	43·1	+1·5	29	14	5	1·01	+0·31	*	*
	Waterford	51	26	49·3	39·0	44·2	+0·2	28	8	6	0·93	+0·03	*	*
	Roche's Point	52	35	49·3	42·7	46·0	+1·7	28	0	6	1·03	—0·10	*	*
	Valencia	52	37	50·4	41·1	45·8	+0·5	30	3	6	1·56	+0·27	19·7	28
	Killarney	56	31	51·4	38·5	45·0	+1·2	36	10	4	1·05	?	*	*
	Foynes	52	31	48·6	38·9	43·8	+1·8	26	9	7	0·70	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	54	42	52·0	44·3	48·2	+2·2	43	0	3	0·94	+0·21	*	*
	Jersey												18·5	26

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

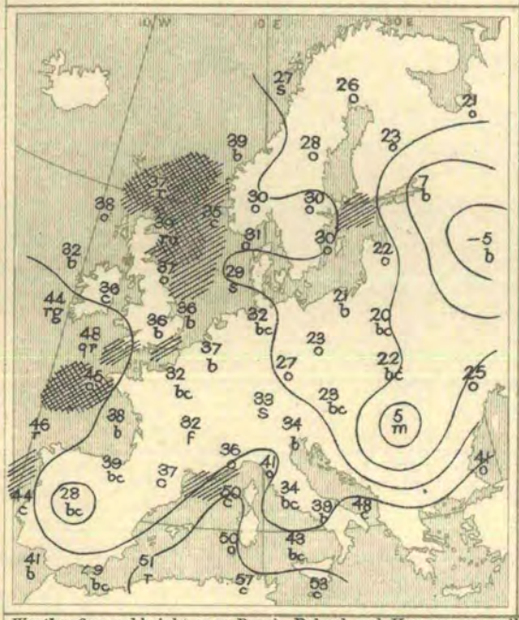
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 16th February.

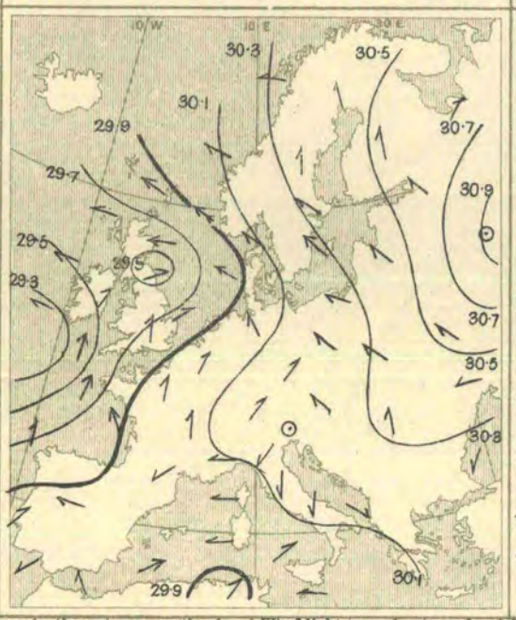
Temperature and Weather.

8 a.m.

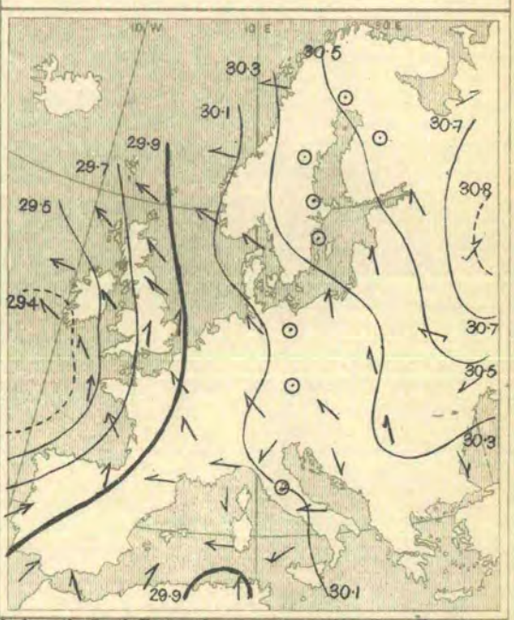


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Russia, Poland, and Hungary, as well as in the extreme south of Europe; temporarily fine over France and a great part of England, very dull and unsettled elsewhere; rain falling on our south and south-west coasts, at Toulon, and Algiers, rain and snow in the north, snow in some parts of Germany. Heavy rain in Brittany later, considerable falls on our south-western coasts and in Caithness, smaller quantities on our northern and western coasts generally, and a large quantity on the southern side of the Mediterranean.

Temperature changing considerably and very irregularly over western Europe, falling fast over Russia. Highest, 50° and more, over several parts of the Mediterranean, 50° at Bilbao, 48° at Scilly, 46° at Corunna, and 40° to 45° at most stations in the south and south-west of the British Islands and west of France; lowest, −5° Faht. at Moscow, +4° at Kharkov, 5° at Hermanstadt, 7° at St. Petersburg, 9° at Cracow, and less than 30° at all the Russian, Austrian, and Polish stations. Rising to between 45° and 52° over the south and east of England later to upwards of 60° in Algeria and Sicily and to 73° at Laghouat.

Wind light to moderate, and mainly from the South-Eastward, over eastern and northern Europe, Easterly to Northerly over the Mediterranean; much stronger in force and very variable in direction in the west. East-South-Easterly gales over the northern half of Scotland, moderate to fresh Westerly and South-Westerly breezes over the east and south-east of England, Southerly gales at the mouth of the Channel, and moderate Easterly breezes in Ireland. Gales all dying down later.

Barometer highest, 30·3 ins. to 30·9 ins., over Sweden, the Baltic, and Russia, 30·0 ins. and more over the south of Spain; lowest, 29·5 ins. and less, in a depression near Berwick, and 29·3 ins. and less in another (larger) one off our south-western coasts. Gradients steep between Scotland and Norway, and also over the Bay of Biscay and south-west of England; north-eastern depression filling up later, that in south-west breaking up and part of it moving southwards towards Spain.

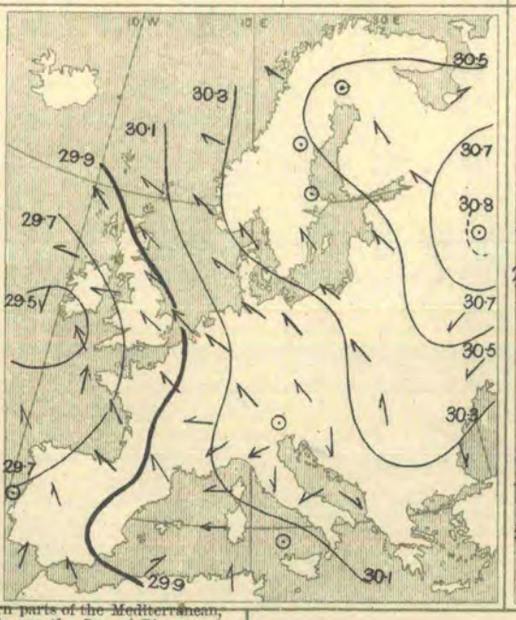
Monday, 17th February.

Temperature and Weather.

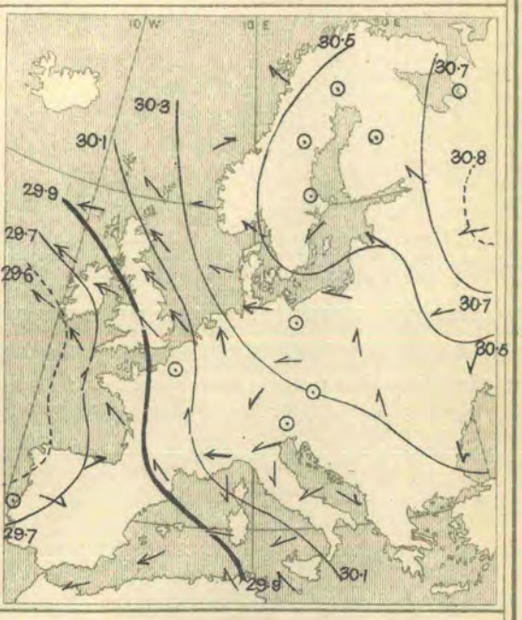
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over the southern, eastern, and north-eastern parts of the Mediterranean, central Russia, the eastern parts of France and England, and over the Bay of Biscay and north-west of Norway; cloudy or overcast elsewhere; rain at Perpignan and on our south-western, western, and north-western coasts, a threatening appearance in north-east of Scotland, snow in Gulf of Finland, fog in Hungary. Rain general on our west and south-west coasts later, thunder and lightning in the south-west and south, and much rain at Perpignan and Cape Béarn.

Temperature in morning exceeding 50° on the southern and western shores of the Mediterranean, and ranging between 40° and 50° on many of the coasts of western Europe and the British Isles; below the freezing point over northern, eastern, and south-eastern Europe, and low as (1) −8° Faht. at Moscow, +5° at Kharkov, 9° at Kiev, 18° at St. Petersburg and Kuopio, 19° at Archangel and Nicolaieff: (2) −1° Faht. at Hermanstadt, +14° at Cracow, 21° at Warsaw. Rising to 50° and more in the south of England later, and to upwards of 60° at Biarritz and on the southern shores of the Mediterranean.

Wind South-Easterly over north-western and northern Europe, fresh to strong in the British Islands (a gale at Wick), moderate on the eastern shores of the North Sea; more Southerly over Spain and the Bay of Biscay, Easterly (strong to a gale) in the south of France, very light and variable over eastern and central Europe. No important change later.

Barometer highest, 30·3 ins. to 30·8 ins., in a very large anti-cyclone covering the whole of eastern and northern Europe; lowest, 29·5 ins. and less, in a depression off our south-western coasts, and 29·7 ins. and less over Portugal and the north-west of Spain. Gradients moderate over the British Islands, slight elsewhere. Rising steadily later throughout north-western Europe, falling slowly over the Spanish Peninsula.

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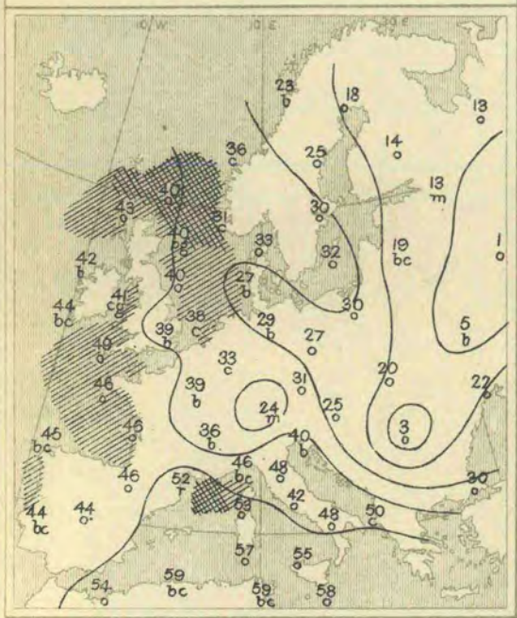
Tuesday, 18th February.

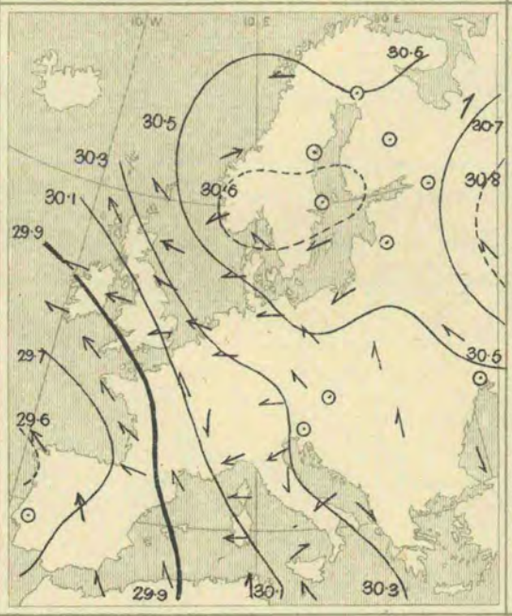
Temperature and Weather.

8 a.m.

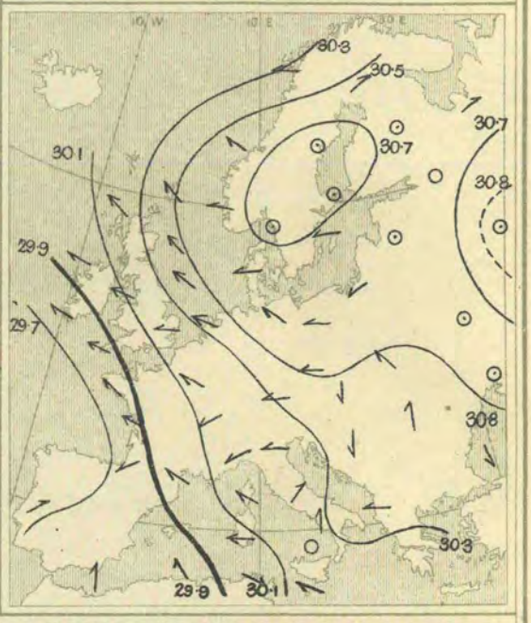


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright in several parts of Algeria, France, Germany, Denmark, and Norway, and in the east of England; cloudy, more or less, elsewhere, and showery at several of our western stations; rain still falling at Perpignan. Rainfall considerable at Valencia, Perpignan, and in some parts of Algeria later, but slight at our other western stations and in various parts of Scandinavia.

Temperature varying from 50° to 59° at 8 a.m. over the southern and western parts of the Mediterranean, and exceeding 40° over all the western parts of the United Kingdom and France; below the freezing point over the northern, eastern, central, and south-eastern parts of Europe, and as low as 1° Fahr. at Moscow, 5° at Hermanstadt, 5° at Kiev, 6° at Kharkov, 13° at Archangel and St. Petersburg, 15° at Hangö and Uleaborg, 24° at Munich, 27° at Berlin. Rising to 77° at Malta, between 68° and 72° over Algeria, 64° at Biarritz, 58° at Paris, 55° at Jersey, 52° at Valencia, and 47° in London later.

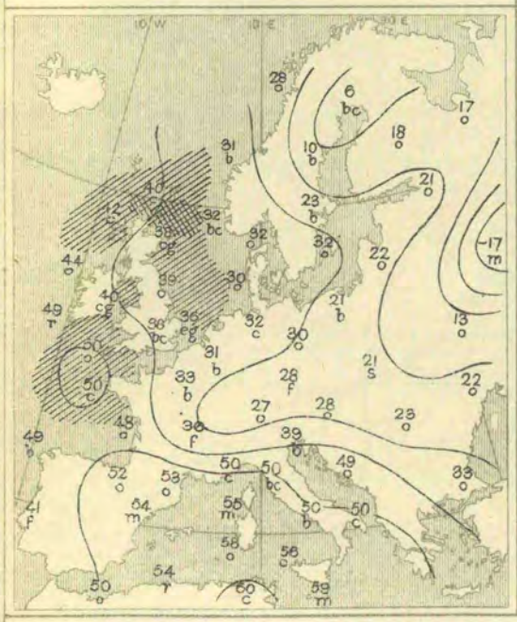
Wind continuing South-Easterly to Easterly over the British Islands, the North Sea, Bay of Biscay, and Spain; fresh to strong in most places, and a gale at Wick, but light to moderate over the south of England and on the eastern shores of the North Sea. Very light and variable over northern, eastern, and central Europe; Easterly, fresh to strong, over the northern parts of the Mediterranean. No important change later.

Barometer highest, 30·6 ins. to 30·9 ins., in a large anti-cyclone covering Russia, and 30·5 ins to 30·6 ins. in a secondary system lying over Scandinavia; lowest, 29·8 ins. and less, in a low-pressure area lying off the coasts of western Europe, and as low as 29·6 ins. at Corunna. Rising a little in most places later, but scarcely any alteration observed in the relative distribution of pressure.

Wednesday, 19th February.

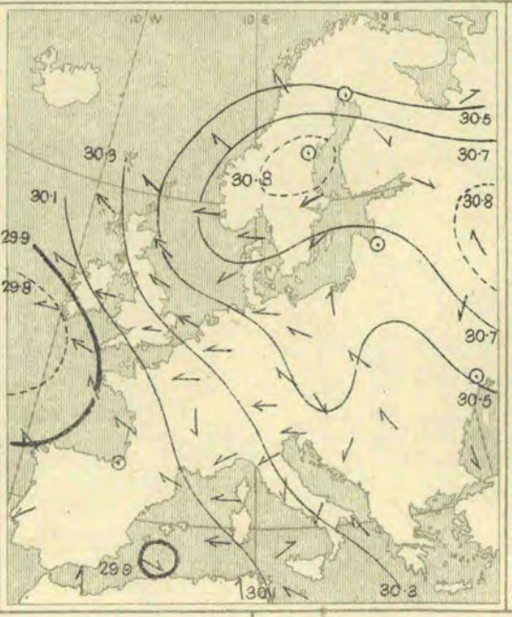
Temperature and Weather.

8 a.m.

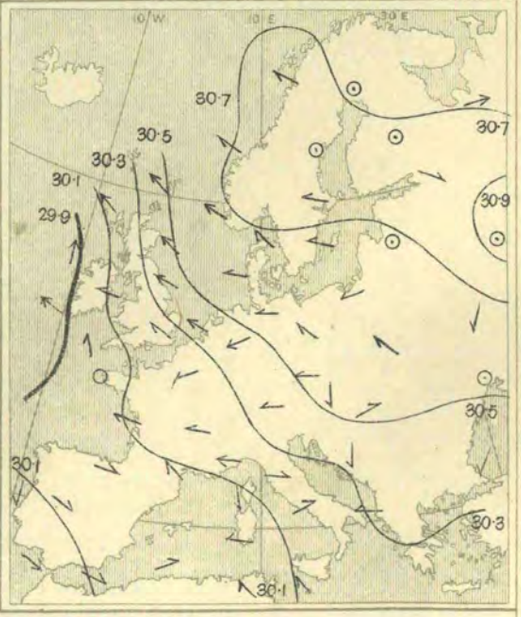


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in many parts of Great Britain and France, as well as in Scandinavia, the Netherlands, and Italy; cloudy or overcast elsewhere, with mist or fog locally, rain at Valencia, snow at Lemberg. Rain falling later over most parts of the United Kingdom, and considerable falls reported over Sardinia and the Gulf of Lion.

Temperature highest, 50° to 55° and upwards, at the Mediterranean stations (La Calle 60°, Malta 59°, Cagliari 58°); lowest, −17° Fahr. at Moscow; low, 20° or less, at most of the Russian and Swedish stations; below the freezing point over the whole of northern, eastern, and central Europe. Rising during day to 66° at Sfax and to between 60° and 64° at several of the Mediterranean stations.

Wind Easterly or South-Easterly in nearly all parts of western Europe; strong in force in many parts of the British Islands, with a gale at Wick. Light or moderate from the North-Eastward over the Baltic, Germany, and the greater part of southern Europe. Variable at the Russian stations, as well as in Algeria. Very little change later.

Barometer highest, 30·8 ins. and upwards, over the central parts of Sweden and Russia; high, 30·5 ins. and upwards, over the whole of northern and eastern Europe; lowest, 29·8 ins. and less, in a large depression lying off the south of Ireland; low, 29·9 ins. and less, in a smaller disturbance lying near Algiers. Gradients rather steep over the western and northern parts of the Kingdom. Another high pressure appearing over Spain later, and rise of barometer setting in over France and the south and south-west of England.

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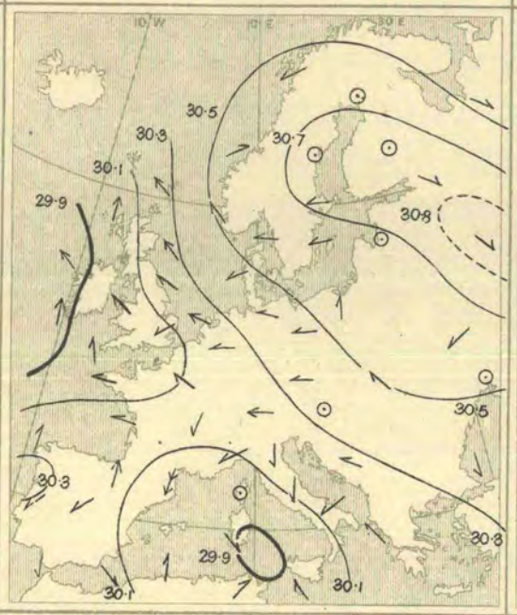
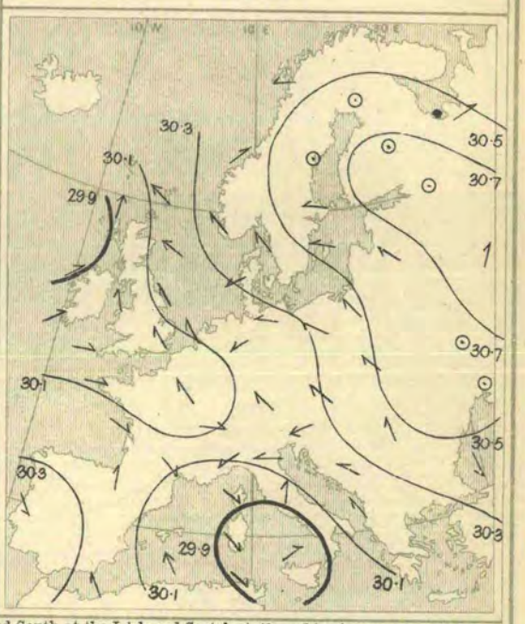
Thursday, 20th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Sweden, Denmark, Germany, some parts of France and Italy; dull or cloudy elsewhere, with rain at some of the Irish and Scotch stations, and in the south of England, as well as at several of the Mediterranean stations. Rain falling later over the United Kingdom and also at some of the French stations.

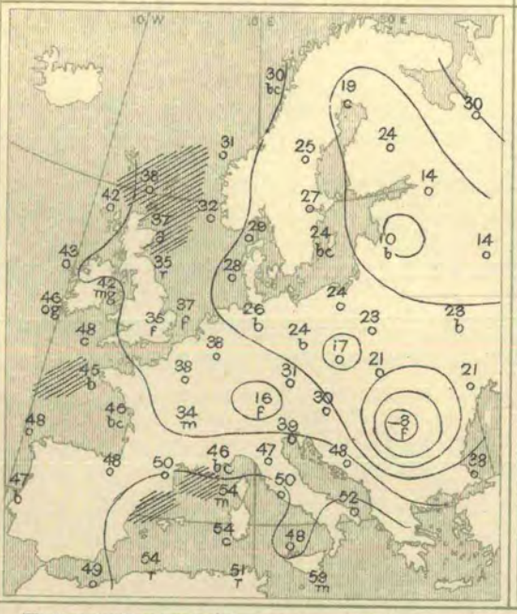
Temperature highest, 60° at Malta, 50° to 56° at the Mediterranean stations generally, 45° to 49° on the west coasts of Great Britain, and 41° at Stornoway; lowest, 1° at Moscow, 3° at Haparanda and Kharkov, 13° at Uleaborg, and 14° at Memel and Kiev; below the freezing point over the whole of northern, eastern, and central Europe. Daily maxima below 40° at several of our northern and eastern stations, but above 50° on our south-west coasts. Thermometer exceeding 60° in Algeria and the south of Italy, the highest reading being 72° at Palermo.

Wind strong from South-East and South at the Irish and Scotch stations (blowing a gale at Wick), fresh from East over England, and light from the North-Westward in the north of Russia. Over the greater part of the Continent, light or moderate Easterly breezes were reported, and variable cyclonic winds over the Mediterranean. Subsequently shifting to the Westward over the Bay of Biscay and also at the mouth of the Channel.

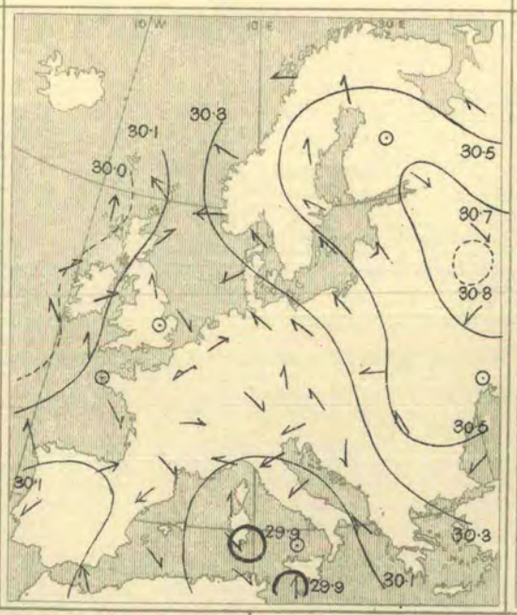
Barometer highest, 30·8 ins. and upwards, over central Russia; high, 30·5 ins. and more, over Scandinavia and Eastern Europe; lowest, 29·8 ins. and less, in a depression lying off the west of Ireland, and also in a small disturbance between Sardinia and Sicily. Gradients less steep over the United Kingdom later, and wind becoming light and variable at the English stations. New high pressure system, with readings above 30·3 ins., appearing over Spain in evening.

Friday, 21st February.

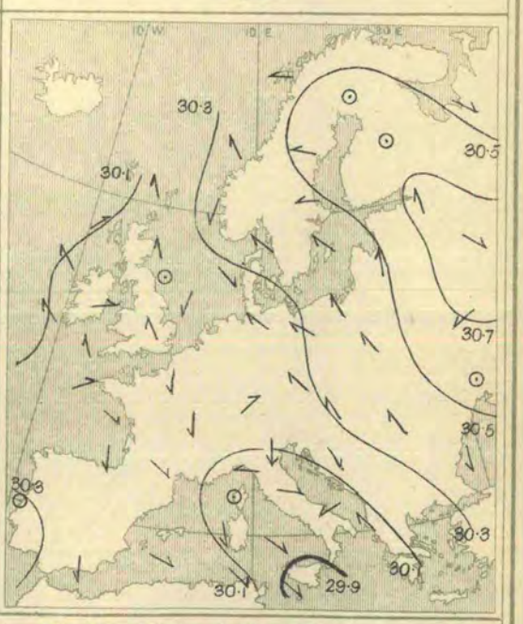
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy or overcast in most places, with fog or mist in many parts of Great Britain and France, and rain at Shields, as well as in Algeria. Fine over Germany and the Baltic, as well as in isolated parts of France and Spain. Rain falling later at some of our western and northern stations, in the south of France, and in Algeria.

Temperature highest, 50° and upwards, over the Mediterranean (Malta 59°, Sanguinaire, Cagliari, and Algiers 54°); high, 45° and upwards, on the south-west coasts of our Islands and the west coast of France; lowest, −3° Faht. at Hermanstadt, −1° at Kharkov, +10° at Riga and Nicolaieff; below 20° at most of the Russian and several of the Austrian stations, below the freezing point over northern, eastern, and central Europe generally. Rising during day to 79° at Brindisi, 68° at Palermo, 64° at Gap, and from 60° to 63° at several of the Mediterranean stations.

Wind moderate from the Southward in the west and north of our Islands, variable over the greater part of England and France; Easterly or South-Easterly over Scandinavia, Denmark, the Baltic, and central Europe; Northerly or North-Westerly over the western parts of the Mediterranean; light and variable in Russia. Very little change later.

Barometer highest, 30·7 ins. and upwards, over central Russia; high, 30·3 ins. and upwards, over the whole of northern and eastern Europe, as well as over the Iberian Peninsula; lowest, 30·0 ins. and less, in a large shallow area lying to the westward of our Islands. Gradients slight generally. Barometer falling in the northern and eastern countries, but rising elsewhere; commencing to rise again in the north-east, but to fall somewhat over Spain and the south of France later.

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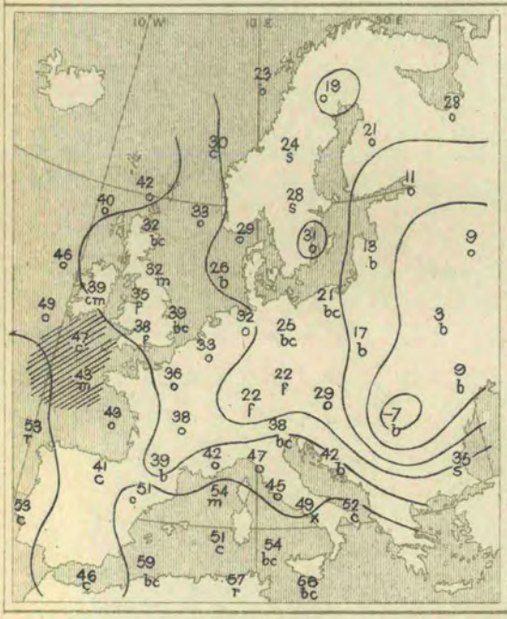
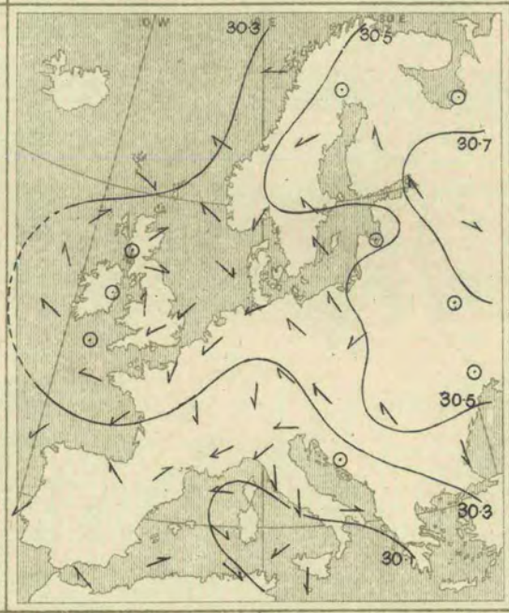
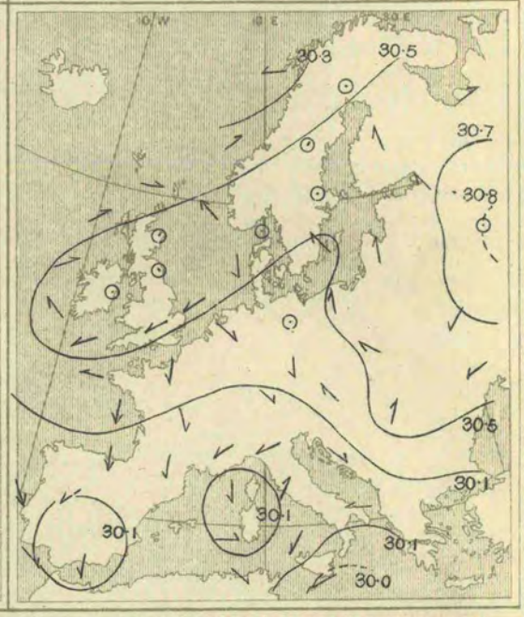
Saturday, 22nd February.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather fine in Austria and the southern parts of Russia and Italy, and fair in the eastern and southern parts of Great Britain; cloudy or overcast elsewhere, with fog at many of the English and German stations, rain at Limoges and La Calle, and snow at Hernösand and Stockholm. Sky clearing later in many parts of western Europe, but snow falling at Uleaborg and Shudesnaes.

Temperature highest, 50° and upwards, at several of the Mediterranean stations, and also on the coasts of the Iberian Peninsula (La Calle 57°, Malta 56°, and Sanguinaire 54°); lowest, −7° Faht. at Hermanstadt, −1° at Kharkov, +3° at Kiev, and 4° at Nicolaieff, below 20° at most of the Austrian and Russian stations, and below the freezing point in nearly all parts of northern, central, and eastern Europe. Daily maxima a little above 50° at many of our western stations and above 60° in Algeria and the southern parts of Spain and Italy.

Wind light from the South-Eastward in the west of our Islands, and also over the greater part of northern and central Europe; North-Easterly or Northerly over France, Spain, Italy, and the south of England; variable in Algeria, as well as in the central and southern parts of Russia. Light South-Westerly breeze setting in later on our extreme north and north-west coasts.

Barometer highest, 30·7 ins. and upwards, over all the more central parts of Russia; high, 30·3 ins. and upwards, in all but the extreme southern countries of Europe. Gradients slight; barometer rising generally. Fall of mercury taking place later in Spain and Algeria, and large shallow depression appearing in these regions.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this week cyclonic conditions of a complex type prevailed over western and north-western Europe, while a large high-pressure area, in which the maximum readings exceeded 30·8 ins., covered Russia, Poland, Austria, and the eastern parts of Germany. The wind was South-Westerly to South-Easterly in the former regions, blowing strongly in several places, and a gale in some; South-Easterly breezes were felt in the latter, and were of little strength. The cyclonic systems soon filled up, while the anti-cyclone spread steadily to the westward, and soon covered nearly the whole of Europe; it was not, however, until almost the end of the week that it spread completely over the British Islands. The wind gradually became South-Easterly over western Europe as the change took place, and decreased in force, while the weather improved. Fog soon began to appear in many places, and in London it was dense on Friday; where the fog was absent the weather was mostly fair.

Judd & Cº Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 9.] *Third Series.* WEEK ENDING SATURDAY, 1ST MARCH, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 50.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Observed during the Week. Averages of Daily Maxima.	Observed during the Week. Averages of Daily Minima.	Observed during the Week. Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	53	24	42·5	34·1	38·3	0 (average)	1	− 8	28	− 1	87	+26	229	− 55
	1. SCOTLAND, EAST	60	21	44·3	33·0	38·7	0 (average)	6	− 8	33	+ 3	93	+13	289	− 48
	2. ENGLAND, N.E.	48	25	41·6	32·8	37·2	3 below.	0	−14	34	+ 6	85	+ 4	344	− 59
	3. ENGLAND, EAST	46	23	40·6	29·9	35·3	6 below.	0	−17	47	+19	95	− 5	301	− 16
	4. MIDLAND COUNTIES	52	23	42·9	30·2	36·6	4 below.	3	−16	42	+15	114	− 1	305	− 5
	5. ENGLAND, SOUTH	49	22	41·7	31·2	36·5	6 below.	0	−21	39	+19	144	+30	205	− 37
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	52	21	44·9	33·2	39·0	1 below.	8	− 6	32	+ 9	110	+17	198	− 51
	7. ENGLAND, N.W.	50	24	42·0	32·9	37·5	4 below.	0	−13	32	+11	104	+12	206	− 40
	8. ENGLAND, S.W.	56	20	43·7	33·0	38·4	5 below.	5	−17	33	+21	182	+ 8	167	+ 23
	9. IRELAND, NORTH	51	25	45·3	36·0	40·6	1 below.	9	− 9	23	+ 4	128	− 1	194	− 21
	10. IRELAND, SOUTH	53	28	46·1	36·1	41·1	2 below.	11	−14	24	+12	202	+ 5	143	0
	— CHANNEL ISLANDS	48	37	44·9	39·1	42·0	4 below.	8	−18	8	+ 3	275	+71	48	− 21

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 50.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	3	6 less.	44	0	9·4	− 1·5	12	17	84	− 9	16	− 2
	1. SCOTLAND, EAST	4	2	4 less.	35	+ 3	5·8	− 0·1	20	28	108	−28	21	− 5
	2. ENGLAND, N.E.	6	5	0 (average).	32	− 1	3·4	− 0·8	16	22	103	+14	19	+ 3
	3. ENGLAND, EAST	5	3	1 less.	35	0	3·4	− 0·7	18	24	147	+28	26	+ 5
	4. MIDLAND COUNTIES	3	1	5 less.	32	− 2	4·0	− 1·2	19	25	119	+12	22	+ 3
	5. ENGLAND, SOUTH	2	1	4 less.	31	− 3	4·1	− 1·3	23	31	132	+23	23	+ 4
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	1	1	7 less.	38	− 2	9·4	− 2·5	23	32	93	+ 2	17	0
	7. ENGLAND, N.W.	2	2	5 less.	37	+ 1	5·6	− 0·8	23	32	114	+17	21	+ 3
	8. ENGLAND, S.W.	1	1	8 less.	33	− 2	6·9	− 2·1	32	43	151	+29	27	+ 6
	9. IRELAND, NORTH	2	1	6 less.	41	− 1	6·0	− 0·7	12	17	116	+ 5	21	+ 1
	10. IRELAND, SOUTH	1	1	7 less.	41	0	9·0	+ 0·7	20	26	140	+11	25	+ 2
	— CHANNEL ISLANDS	1	1	6 less.	40	− 1	6·7	− 0·2	43	58	185	+17	32	+ 4

General Remarks.

Weather during this week has varied considerably in different parts of the Kingdom. At first it was rather mild and generally fair over Ireland and Scotland, and rather cold and dry, with local mists and fogs over England. Towards the end of the week it became cold and wintry in all districts, and slight falls of snow, alternating with bright intervals, were experienced over Great Britain, as well as in some parts of Ireland. In the extreme south-east of England, however, the snow-fall was considerable.

Temperature has just equalled the mean in "Scotland E." and "Scotland N.," but in all other districts it has been below the normal value. In "England S.W." the deficit has been 5°, and in "England E." and "England S." as much as 6°. The highest of the maxima, which were registered during the earlier days of the period, ranged from 46° in "England E." to 56° in "England S.W." and to 60° in "Scotland E." (at Ochtertyre). The lowest of the minima were recorded either on Friday or Saturday, when the thermometer fell to 20° in "England S.W.," 21° in "Scotland W." and "Scotland E.," 22° in "England S.," and to between 23° and 28° in most other districts.

Rainfall has been the same as the mean in "England N.E.," but in all other parts of the Kingdom the fall has been less than the normal. In most districts the fall was extremely slight.

Bright Sunshine shows a very decided increase on that recorded during the previous week, the percentage of the possible duration having ranged from 17 in "Scotland N." and "Ireland N." to 31 in "England S.," 32 in "Scotland W." and "England N.W.," 43 in "England S.W.," and to 58 in the Channel Islands.

Barometer and Wind.—During the greater part of the week the distribution of pressure continued anti-cyclonic, and light Easterly and North-Easterly airs or calms prevailed. Subsequently, however, the anti-cyclone moved slowly north-westwards, the wind became more Northerly, and some small shallow disturbances passed from the northwards down our east coasts. On Saturday a well-defined depression moved quickly from the northward to the north-east of England, and thence in a south-westerly direction to the Channel. The wind freshened in many places during the passage of this depression, at first from the South-ward and afterwards from the North-Eastward or Eastward.

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III.– DATA from which the SUMMARY on page 49 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℨ	49	27	40·0	34·1	37·1	—1·9	0	34	5	0·10	—0·69	*	*
	Stornoway	52	31	43·9	34·9	39·4	—0·4	5	26	4	0·13	—0·79	15·3	22
	Wick	52	29	42·3	34·7	38·5	—0·5	1	26	7	0·60	+0·10	*	*
	Lairg ℨ	51	24	42·2	31·5	36·9	—0·7	1	37	6	0·27	—0·50	*	*
	Glencarron ℨ	52	26	43·3	33·5	38·4	+0·6	4	31	5	0·55†	—1·02	?	?
	Fort Augustus ℨ	53	30	43·3	35·9	39·6	+0·8	4	22	1	0 07†	?	8·0	11
1. SCOTLAND, E.	Nairn	53	30	43·6	36·1	39·9	+0·4	4	22	7	0·25	—0·14	*	*
	Aberdeen	52	29	42·4	34·7	38·6	—0·4	1	26	6	0·16	—0·45	15·6	22
	Braemar ℨ	50	21	44·0	27·6	35·8	+0·4	6	52	4	0·16	—0·57	27·3‡	38‡
	Ochtertyre ℨ	60	26	49·4	30·1	39·8	+2·0	21	47	0	—	—0·90	*	*
	Leith	55	30	45·3	34·9	40·1	—0·1	9	27	2	0·09	—0·29	*	*
	Marchmont ℨ	50	25	41·1	34·3	37·7	—0·2	0	30	7	0·46	—0·12	16·5	23
2. ENGLAND, N.E.	Alnwick Castle	47	30	40·7	34·1	37·4	—1·7	0	32	6	0·61	+0·05	*	*
	Durham	48	27	41·5	31·2	36·4	—3·0	0	39	7	0·37	—0·08	19·6	27
	Shields	48	29	43·0	33·3	38·2	—1·8	3	32	7	0·42	+0·02	*	*
	Scarborough ℳ	43	28	40·6	33·1	36·9	—2·9	0	36	7	0·92	—0·49	14·3‡	20‡
	York	47	25	43·1	31·1	37·1	—2·9	3	39	5	0·17	—0·28	13·3	18
	Spurn Head	44	30	40·9	33·9	37·4	—2·4	0	32	5	0·34	?	*	*
3. ENGLAND, E.	Hillington ℳ	44	24	41·0	29·8	35·4	—4·8	0	46	6	0·50	+0·05	19·1	26
	Yarmouth	42	23	39·4	31·9	35·7	—5·3	0	44	6	0·41	—0·09	*	*
	Geldeston	46	23	41·4	30·0	35·7	—5·4	0	44	6	0·37	—0·03	20·1	27
	Cambridge	45	24	41·9	28·0	35·0	—5·8	0	49	4	0·21	—0·17	14·6	20
	Rothamsted	43	26	39·6	29·7	34·7	—6·0	0	51	6	0·20	—0·32	*	*
	Ingatestone	43	25	40·1	29·8	35·0	—6·5	0	49	3	0·19	—0·19	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	48	24	43·9	30·7	37·3	—3·6	5	41	6	0·09	—0·31	12·0‡	16‡
	Loughborough	49	27	43·4	30·4	36·9	—3·9	4	42	4	0·05	—0·42	12·7‡	17‡
	Cheadle ℳ	51	24	42·4	29·4	35·9	—3·9	1	44	4	0·09	—0·54	*	*
	Churchstoke ℳ													
	Hereford ℳ	52	27	44·8	31·3	38·1	—3·4	8	40	1	0·01	—0·52	*	*
	Cirencester	47	23	41·0	29·3	35·2	—5·4	0	48	1	0·08	—0·52	27·1	37
	Oxford	46	26	42·1	30·0	36·1	—5·1	0	42	3	0·05	—0 40	22·1	30
5. ENGLAND, S.	London	45	25	41·1	31·4	36·3	—5·7	0	40	3	0·33	—0·10	9·6‡	13‡
	Strathfield Turgiss ℳ	49	26	42·8	30·1	36·5	—5·5	2	43	2	0·12	—0·36	*	*
	Dungeness	44	22	41·3	33·0	37·2	—5·6	0	34	2	0·08	—0·42	? ‡	? ‡
	Hastings (St. Leonards)	44	25	40·7	31·4	36·1	—6·4	0	41	3	0·22	—0·26	31·8	43
	Southampton	44	25	41·1	31·1	36·1	—5·9	0	41	1	0·03	—0·62	27·2	37
	Hurst Castle	48	28	43·0	32·3	37·7	—5·2	3	35	0	—	—0·57	*	*
	Stowell ℳ	49	22	41·6	29·3	35·5	—6·3	0	46	3	0·19	?	22·6‡	31‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	51	27	46·2	33 6	39·9	—0·3	12	32	3	0·28†	—1·76	*	*
	Glasgow	52	28	43·8	34·2	39·0	—0·9	5	29	1	0·01	—0·78	17·2	24
	Ardrossan	50	30	44·3	34·4	39·4	—0·6	6	29	0	—	—0·78	*	*
	Glenlee ℨ	52	21	45·1	29·8	37·5	—1·2	9	45	0	—	—1·19	*	*
	Douglas (Isle of Man)	51	28	44·9	33·8	39·4	—2·5	8	31	1	0 22	—0·59	29·3	40
7. ENGLAND, N.W.	Newton Reigny	47	24	41·1	30·6	35·9	—3·1	0	43	2	0·12	—0·57	23·4	32
	Stonyhurst	50	26	42·7	31·2	37·0	—3·0	2	39	3	0·25	—0·65	26·1	36
	Blackpool ℳ	46	29	42·0	32·7	37·4	—4·4	0	32	3	0·11	—0·47	23·0	31
	Manchester	49	26	42·1	31·0	36·6	—4·2	0	39	2	0·16	—0·41	*	*
	Liverpool Obsy. (Bidston)	44	29	41·3	33·0	37·2	—4·3	0	34	3	0·15	—0·28	*	*
	Llandudno ℳ	45	32	41·3	34·4	38·1	—4·7	0	27	1	0·20	—0·32	20·7	28
	Holyhead	46	35	43·1	37·3	40·2	—2·9	3	17	3	0·10	—0·50	*	*
8. ENGLAND, S.W.	Llandovery	56	20	46·1	29·7	37·9	—5·1	11	46	2	0·17	—0·88	*	*
	Pembroke	50	33	44·4	35·1	39·8	—4·3	7	26	0	—	—0·72	29·9	40
	Arlington (N. Devon)	49	26	42·1	31·6	36·9	—5·1	0	37	1	0·09	—1·00	*	*
	Cullompton ℳ	49	25	43·7	31·7	37·7	—4·8	5	37	1	0·07	—0·71	30·4	41
	Falmouth	45	30	42·9	35·2	39·1	—5·2	3	25	1	0·12	—0·83	35·8	48
	Plymouth	50	28	44·2	33·9	39·1	—4·9	6	30	1	0·11	—0·62	32·4	44
	Prawle Point	47	27	42·6	33·7	38·2	—5·6	2	30	1	0·10	?	*	*
9. IRELAND, N.	Malin Head	49	36	43·9	39·0	41·5	+0·5	5	12	3	0·10	?	*	*
	Londonderry	50	33	46·3	36·6	41·5	+0·5	12	22	2	0·10	—0·58	*	*
	Mullaghmore	50	33	45·4	38·4	41·9	+0·6	10	15	3	0·14	—0·67	*	*
	Belmullet	51	32	46·4	38·7	42·6	—1·2	18	9	2	0·16	?	*	*
	Markree Castle	50	25	46·3	32·1	39·2	—1·5	12	38	1	0·02	—0·61	14·0	19
	Brookeborough	51	26	44·8	31·8	38·3	—1·6	8	38	1	0·05	?	*	*
	Armagh	50	28	44·7	33·7	39·2	—2·5	8	31	2	0·08	—0·51	10·7	15
	Donaghadee	50	35	45·0	38·7	41·9	0·0	8	14	2	0 08	—0·51	*	*
	Edgeworthstown	51	28	44·6	34·7	39·7	—0·6	7	28	3	0·04	—0·75		*
10. IRELAND, S.	Dublin	52	32	44·9	37·9	41·4	—1·1	8	16	2	0·03	—0·52	12·3	17
	Parsonstown	52	31	45·9	36·1	41·0	—0·9	11	23	0	—	—0·57	15·6	21
	Kilkenny	53	29	45·4	35·7	40·6	—1·2	10	25	0	—	—0·64	*	*
	Waterford	51	30	45·8	35·1	40·5	—3·5	11	27	0	—	—0·80	*	*
	Roche's Point	50	33	46·9	37·0	42·0	—2·3	14	14	0	—	—1·00	*	*
	Valencia	52	32	48·0	37·1	42·6	—2·7	25	14	2	0·18	—0·98	30·7	41
	Killarney	51	28	46·3	32·8	39·6	—4·4	12	36	1	0·04	?	*	*
	Foynes	50	30	45·6	36·9	41·3	—0·9	10	21	1	0·14	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	48	37	44·9	39·1	42·0	—4·0	8	8	1	0·07	—0·59	*	*
	Jersey												42·7	58

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℨ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

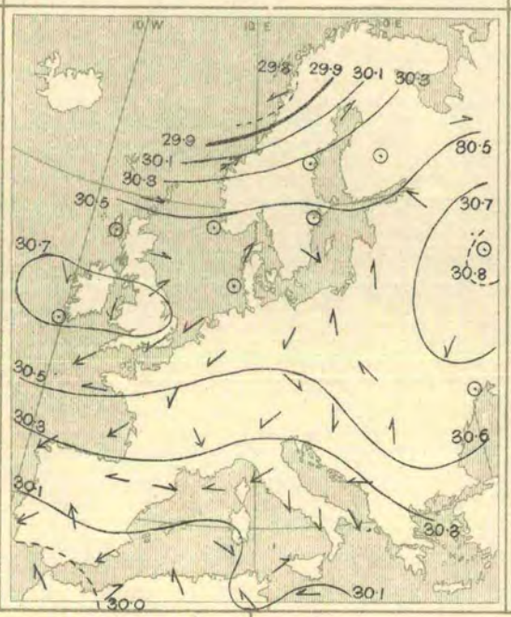
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.", and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

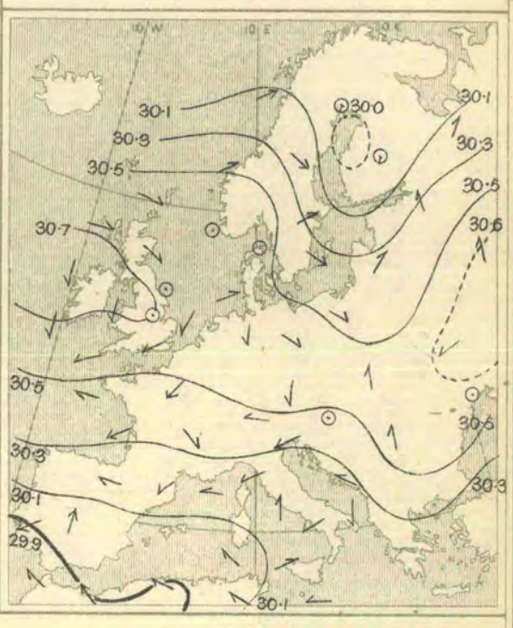
Sunday, 23rd February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine at several of the English stations, over Austria, and on the southern shores of the Mediterranean; cloudy or overcast elsewhere, with snow in Lapland; rain at Skudesnaes, Malin Head, and Bilbao, and fog over central England. Slight rain falling later in the north and north-west of our Islands, larger quantities on the northern and eastern shores of the Mediterranean, and snow in Scandinavia.

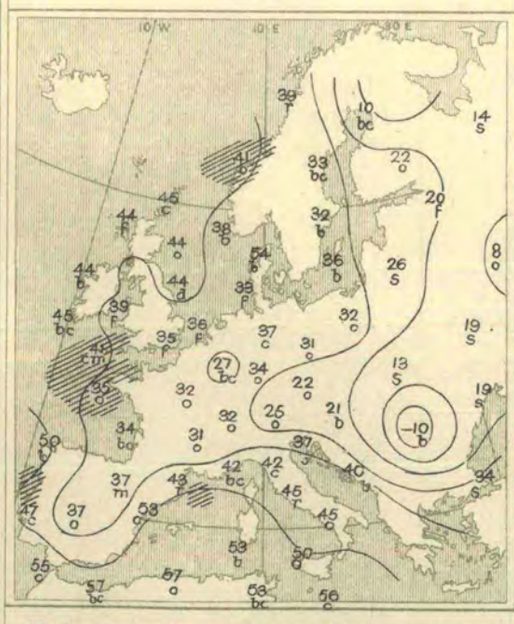
Temperature highest, 50° and upwards, over the Mediterranean (Malta and La Calle 56°, Algiers 55°, Sanguinaire 52°, and Barcelona and Brindisi 50°), 45° and upwards over Spain and in the south-west of our Islands; lowest, 3° at Kharkov, 7° at Hermanstadt, 9° at Kuopio, 12° at Cracow, and 13° at Lemberg, below 20° over most parts of Russia and Austria, and varying between the freezing point and 38° Faht. over central Europe generally. Rising to between 60° and 70° over Algeria later and to 66° at Palermo.

Wind fresh from the Eastward over Spain, France and the Bay of Biscay, the English Channel, and at most of the Mediterranean stations; light from West and South-West over the north of Ireland, Scotland, Scandinavia, and the north of Russia (blowing a gale at Christiansund). Light and variable over the greater part of Russia and Austria.

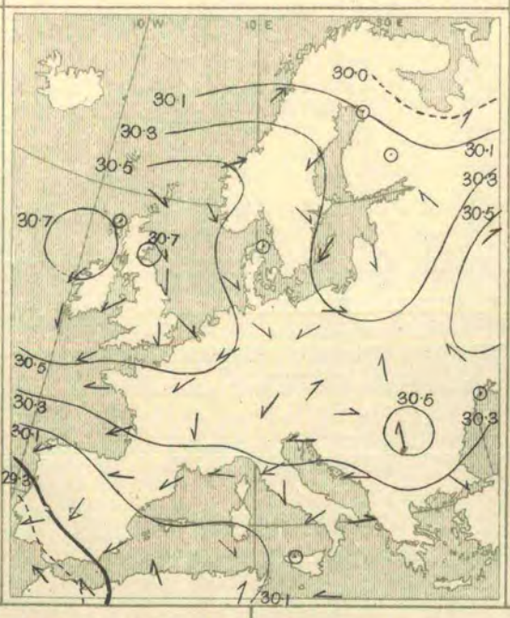
Barometer highest, 30·6 ins. to 30·8 ins. and upwards, over central Russia, and 30·6 ins. to 30·7 ins. and more over the whole of our Islands, Denmark, and the Netherlands; lowest, 29·8 ins. and less, over Finmark, 30·0 ins. and less over the south of Spain and Morocco. Gradients rather steep over Scandinavia, but slight generally elsewhere. Barometer falling quickly over the north of Europe, and somewhat decidedly over the Iberian Peninsula, but rising elsewhere; falling a little over Russia later, and also over Scandinavia.

Monday, 24th February.

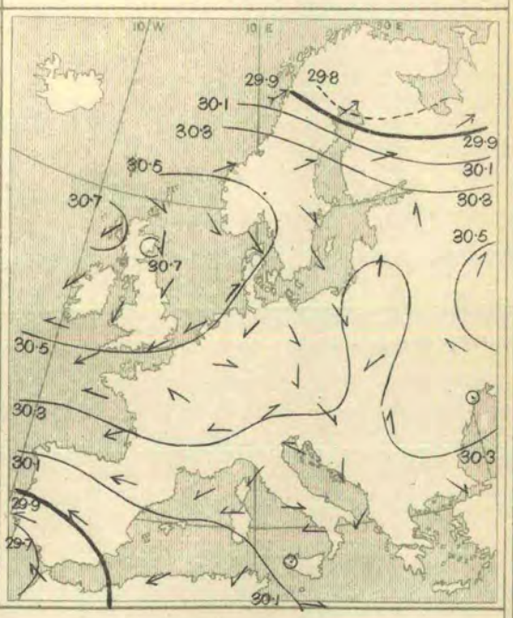
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather very variable—foggy, misty, and damp in many parts of our Islands, clear and bright in others, as well as at some of the Continental stations; dull and unsettled over northern, eastern, and southern Europe, with rain at several Mediterranean stations and in the north of Norway, snow at Archangel, Hangö, Riga, Lemberg, Constantinople, and in the south of Russia. Slight rain in several parts of the British Islands later, and 0·3 ins. at Perpignan, 0·7 ins. at Cape Bearn, and a still larger amount at Palermo.

Temperature changing irregularly; decided rise reported over the Baltic, Eastern Germany, and many parts of Russia. Highest, 50° to 57°, over the southern parts of the Mediterranean, 50° in the north-west of Spain, 40° to 45° in the south of France and at the Irish stations; below the freezing point over Russia, Austria, and Germany; (1) −10° Faht. at Hermanstadt, +13° at Lemberg, 17° at Nicolaieff, 19° at Odessa and Kiev, 20° at Cracow, and 22° at Prague and Warsaw; (2) 8° at Moscow, 10° at Haparanda, 14° at Uleaborg and Archangel, 20° at St. Petersburg. Rising over the British Islands later, but falling fast again at night.

Wind fresh from the North-Eastward over Spain, the south and west of France, and the English Channel, strong from South-west in the north-west of Norway, light North-Westerly in Scotland and on the eastern shores of the North Sea; variable elsewhere, but chiefly North-Easterly over Ireland and England. Not much change later, except that the North-Easterly current over England and the Channel became still more decided.

Barometer highest, 30·5 ins. to 30·7 ins., in an anti-cyclone of irregular form lying over the British Isles, the Netherlands, North Sea, and west of Norway, and 30·5 ins. to 30·6 ins. over the southern half of Russia; lowest, 29·8 ins. and less, in the south-west of Spain, about 30·0 ins. in the extreme north of Russia, and 30·1 ins. and less in a local depression near Reval. Gradients slight to moderate. Depression near Reval filling up later, but new and larger system appearing over northern Europe.

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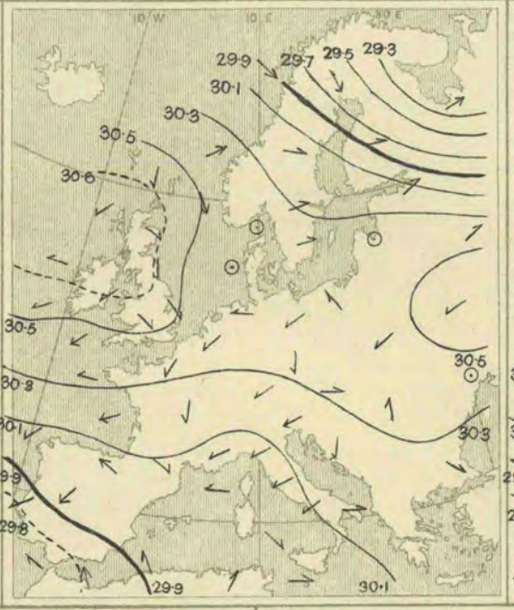
II.—SUMMARY OF WEATHER OVER EUROPE.

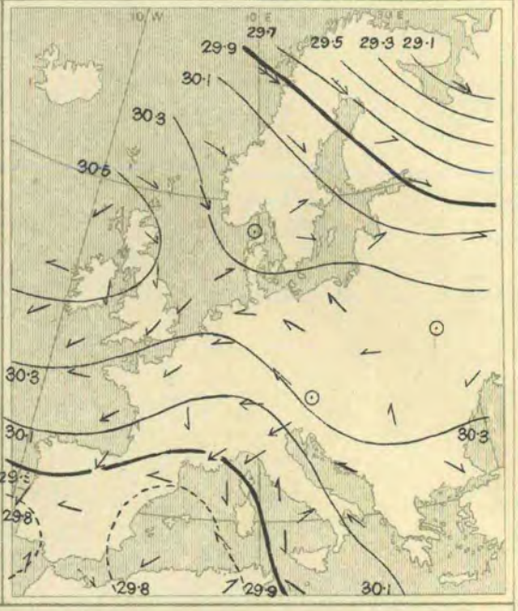
Tuesday, 25th February.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather in morning fine and bright over the Adriatic, the Bay of Biscay, France, several parts of our Islands, the eastern shores of the North Sea, Sweden, and Finland; cloudy or overcast elsewhere, with snow in some parts of Germany and the south of Russia, slight rain in the north and east of our Islands, and fog or mist in many places. Drizzling rain continuing in north and east of Great Britain during day, rain and snow in south of France and north-east of Spain, and rain in some parts of Italy and Algeria.

Temperature exceeding 50° over southern and western parts of Mediterranean and western parts of Spain, and exceeding 40° in Ireland and Scotland; below the freezing point over northern and eastern Europe and in several parts of Germany and France; lowest morning values, 12° Faht. at Kharkov, 13° at Hermanstadt, 16° at Kiev, 18° at Odessa and Lemberg, 19° at Moscow. Rising fast over northern and central Europe. Not much change in our Islands later.

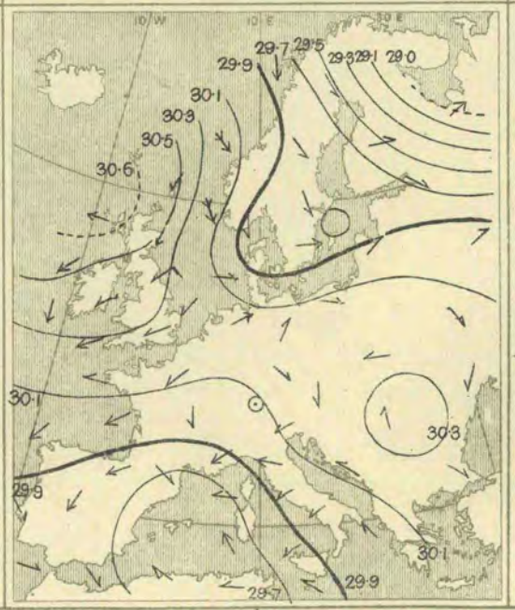
Wind strong to a gale from Westward (South-West to North-West) over northern Europe, fresh from the Eastward over the Adriatic, Italy, the Bay of Biscay, and English Channel. Light North-Easterly in most other places, but very variable over Eastern Europe. The North-Westerly wind becoming very strong over northern Europe later—a gale in some places.

Barometer highest, 30·4 ins. to 30·6 ins. and more, over north-western Europe and the British Isles, 30·4 ins. to 30·5 ins. and more over the southern half of Russia; lowest, 29·3 ins. and less, in a depression over northern Europe, 29·8 ins. and less off the south-west and south of Spain, 30·0 ins. and less over the Mediterranean. Falling irregularly, but not rapidly, over the British Isles all day, although the main depression over northern Europe was moving eastwards.

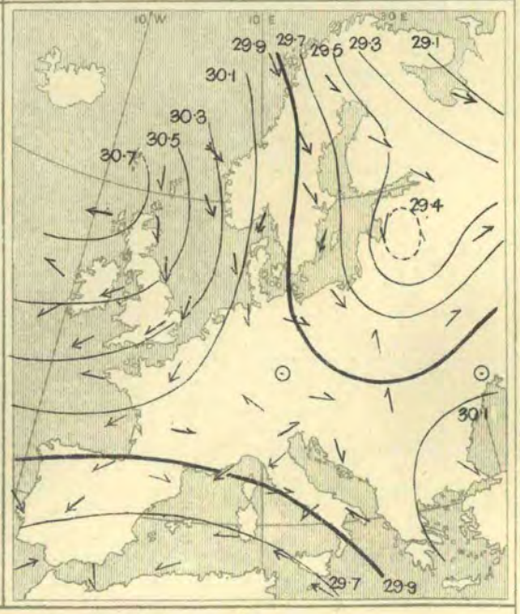
Wednesday, 26th February.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine over central Europe, France, Spain, the Bay of Biscay, and western parts of the British Isles; dull and unsettled elsewhere, with snow at some of the Scandinavian stations, snow and rain in the south of France, and slight rain over the northern and eastern parts of Great Britain. Rain at times (in very small quantities) in London during day, but weather improving in Scotland. A good deal of rain over the western and southern parts of the Mediterranean.

Temperature highest, 50° to 57°, over the southern parts of the Mediterranean and south of Spain only, 49° at Corunna, 44° at Belmullet, 43° at Scilly and Malin Head, 40° at Loughborough and Aberdeen; much below the freezing point over Russia and central Europe, and as low as (1) −1° Faht. at Hermanstadt, +9° at Lemberg, 15° at Cracow and Kiev, 17° at Odessa, 18° at Munich, and 19° at Kharkov; (2) 17° at Kuopio, 18° at Archangel, 22° at St. Petersburg and Moscow. Falling in north of our Islands later. Not much change during day.

Wind Westerly to North-Westerly over northern Europe (a gale in several places), Northerly to North-Easterly (light to fresh) over the British Islands and western Europe generally, Easterly (strong to a gale) on the northern shores of the Mediterranean, South-Easterly at Cagliari; very light and variable over Germany, Austria-Hungary, southern and central Russia. Wind increasing considerably over the British Isles and North Sea later—blowing a gale at some of the more eastern of our stations and in Norway.

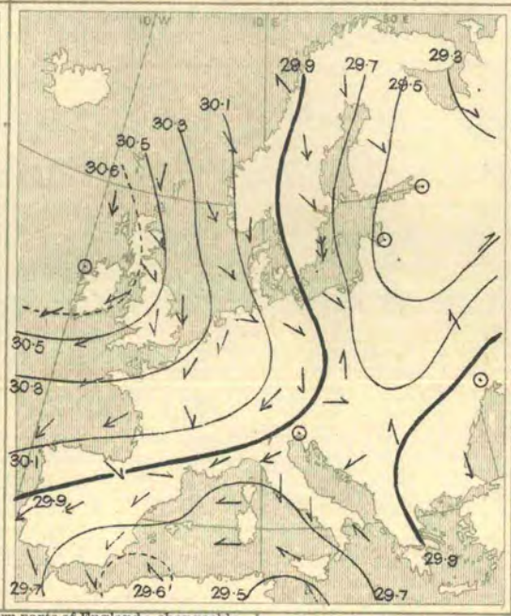
Barometer highest, 30·2 ins. to 30·6 ins. and more, over the British Islands, 30·2 ins. to nearly 30·4 ins. over south-eastern Europe; lowest, 29·0 ins. and less, in a large depression over the north-east of Russia, 29·7 ins. and less in a small secondary over the Baltic, and also in a larger disturbance over the western portion of the Mediterranean. Russian anti-cyclone giving way. Northern depressions moving south-eastwards later and barometer rising over north-western Europe.

Judd & Co Lts Lith. 73 & 75, Farringdon Rd & Doctors Commons

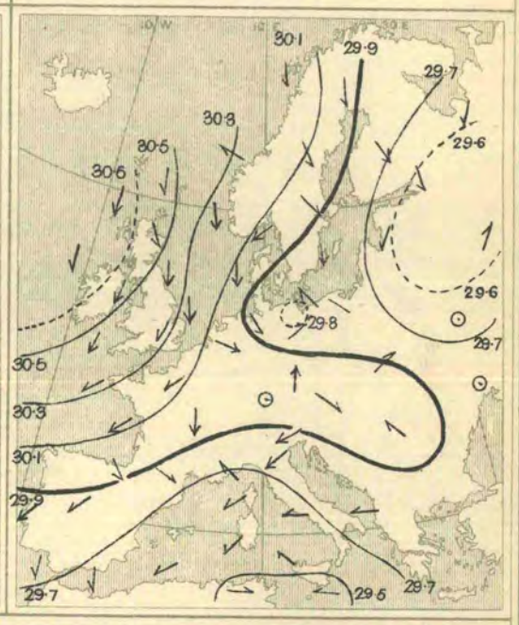
Thursday, 27th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over France, Germany, and the south-eastern parts of England; changeable and unsettled elsewhere, with snow in many parts of Russia, the north and east of Scotland, and the west of Norway. Snow showers later over Germany, the North Sea, and many parts of our Islands, the amounts measured being considerable in Germany and at Christiansund; slight elsewhere. Much rain over the northern, western, and southern shores of the Mediterranean.

Temperature exceeding 50° over the southern parts of the Mediterranean only; 40° to 50° on the Atlantic coasts of Spain and Portugal, but below 40° in nearly all parts of north-western and western Europe. Below the freezing point over the whole of eastern and central Europe, as well as in the Netherlands and at Turin; lowest morning values (1) −9° Faht. at Hermanstadt, +11° at Kharkov and Kiev, 17° at Odessa, 24° at Cracow; (2) 3° at Kuopio, 10° at Uleaborg, 12° at Haparanda, 13° at Archangel, 17° at Hangö, 20° at Riga, and 22° at Moscow. Falling decidedly in the north-east and east of our Islands later, and remaining below 60° over Italy, although rising to above that value over Algeria and Sicily.

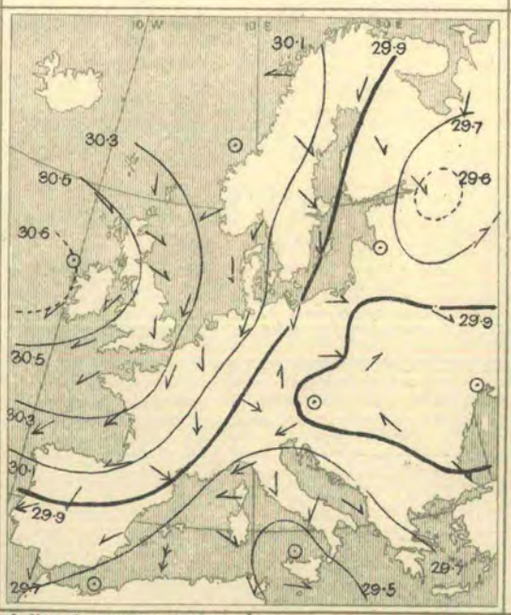
Wind Northerly over the whole of northern Europe, Northerly to North-Westerly over Great Britain, the North Sea, and Germany, North-Easterly in Ireland, the south-west of England, France, and Spain, as well as at most of the Mediterranean stations; very variable over south-eastern Europe, Southerly over the southern half of Russia, fresh to strong in many places; a gale at Wisby and Skudesnaes. Very strong and squally from the Northward over the North Sea and eastern parts of the British Isles later, and blowing hard in Norway.

Barometer highest, 30·4 ins. to nearly 30·7 ins., over the British Isles, 29·9 ins. to 30·0 ins., over south-eastern Europe and the Black Sea; lowest, 29·5 ins. to 29·7 ins., over the Mediterranean, 29·3 ins. to 29·5 ins. over the northern half of Russia. Gradients moderate generally, but rather steep over the Baltic, Germany, Switzerland, and the south of France. Not much change later.

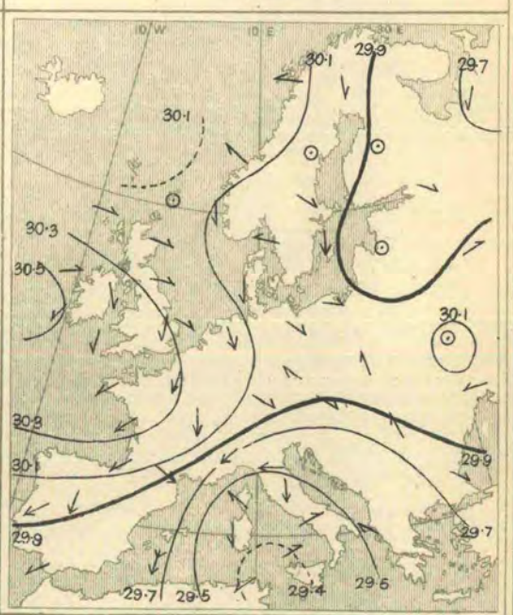
Friday, 28th February.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the major part of western Europe, including the southern half of the British Isles, fine over south-eastern Europe, cloudy, changeable, and unsettled elsewhere: snow showers along our north and east coasts, in South Germany, and the south-east of France; rain at Pesaro. Snow later in the north and east of the British Isles, some rain and sleet in the west, snow in the Netherlands and east and south of France, and much rain over the southern side of the Mediterranean.

Temperature above 50° at the coast stations on the southern side of the Mediterranean, exceeding 40° on the northern side, and also in the west of Spanish Peninsula; below 40° all over the United Kingdom, and below the freezing point at almost all inland European stations. Lowest, (1) 1° Faht. at Haparanda, 3° at Uleaborg, 5° at Archangel, 10° at Hernösand, 13° at Bodö, Kuopio, Stockholm, and Riga, 15° at St. Petersburg, 16° at Moscow; (2) 4° at Cracow, 12° at Lemberg and Kiev, 13° at Warsaw, 14° at Hermanstadt, 21° at Munich, 27° at Paris, 29° at Madrid, Limoges, and York, 30° in London, and 31° at Parsonstown. Inclined to rise later over the United Kingdom and to fall in France.

Wind varying greatly, chiefly North-Westerly to Northerly over the British Isles, North Sea, the Netherlands, and east of France, North-Easterly over the Bay of Biscay, Spain, and the north of Italy, nearly calm over south-eastern Europe. Backing towards West in Scotland later and also over North Sea.

Barometer highest, 30·3 ins. to 30·6 ins. and more, over the British Islands and north-west of France, and 29·9 ins. to 30·0 ins. over Austria-Hungary and the south of Russia; lowest, 29·5 ins. and less, in a depression over the Mediterranean, 29·6 ins. and less in another near St. Petersburg. Barometer falling over the British Islands all day, and new depression approaching our extreme northern coasts from northward.

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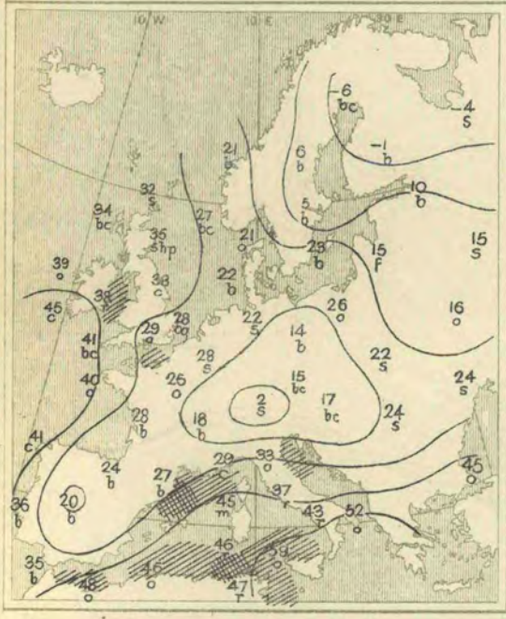
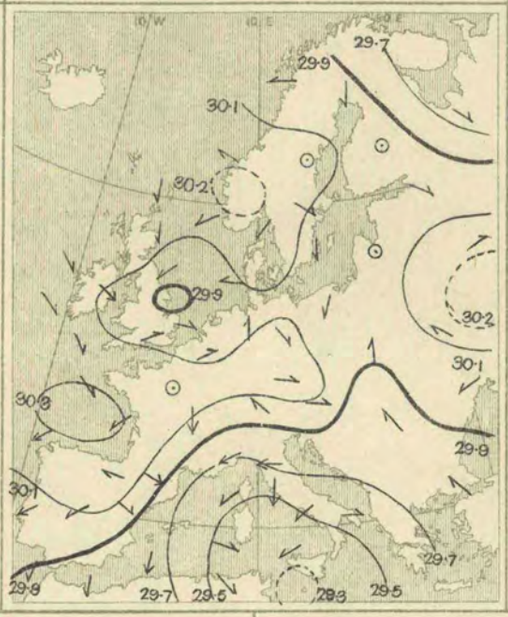
Saturday, March 1st.

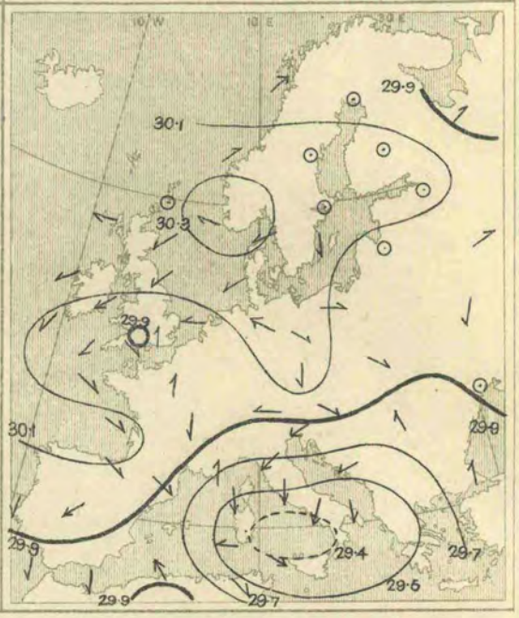
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright over Spain, the south and east of France, Germany, the Baltic, and Finland; cloudy or overcast in most other places, with snow showers in many parts of our Islands, Norway, Russia, Austria, and the south of France, rain over the south of Italy and Tunis. Rain heavy during day over Italy, the Adriatic, and some parts of Algeria, and snow considerable in south-east of England, southern Russia, and English Channel.

Temperature above 50° at Brindisi and Palermo, below 40° at all but extreme western stations; below freezing point over almost all inland parts of Europe and south-east of England. Lowest, (1) −1° to −9° Fahr. over Finland and north of Russia, +5° at Stockholm, 7° at Hangö, 15° at Moscow and Riga; (2) 2° Fahr. at Munich, 15° at Prague, 17° at Vienna, 20° at Madrid, 25° at Paris, 29° in London. Not exceeding 32° in London all day.

Wind very variable in direction, light to moderate in force; anticyclonic over the Bay of Biscay, also over Scandinavia and Russia; cyclonic over British Islands and North Sea, the Mediterranean, and southern Europe. North-Easterly and Easterly winds becoming very general in British Islands later, and South-Westerly winds setting in over Norway.

Barometer highest, 30·2 ins. to 30·3 ins. and more, over the Bay of Biscay, 30·1 ins. to 30·2 ins. and more over Norway, and also over the southern half of Russia; lowest, 29·4 ins. and less, in a depression over south-eastern part of Mediterranean, 29·6 ins. and less in extreme north-east of Russia, and 29·9 ins. and less in small depression near Flamborough Head. Latter system moving south-westwards later, and Norwegian anti-cyclone spreading to Scotland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the beginning of this week barometric pressure was high (30·5 ins. to 30·7 ins.) in two anti-cyclonic areas, which lay one over the British Islands, the other over central Russia—the two being joined by a well-marked "col," stretching across the North Sea, Denmark, the Baltic, and north Germany. To the northward of these systems depressions of considerable magnitude appeared, and the wind was Westerly (South-Westerly to North-Westerly); to the southward, also, there were depressions, but of less intensity, and the wind was mainly Easterly (South-Easterly to North-Easterly). Temperature was low except in the extreme west and north-west. As the week advanced the anti-cyclone in the west moved northwards, while that over Russia moved southwards, and dispersed. The wind consequently became more Northerly over western Europe, and as shallow depressions, moving in a southerly direction, appeared over the North Sea, frequent falls of snow occurred over the British Islands. On Saturday a well-marked, but not deep, disturbance had reached the Yorkshire coast, causing a considerable fall of snow in the south-east and east of England and over the Channel, with great variations in the direction of the wind. This was moving away to the southward at the close of the week and temperature was falling, with increasing Easterly winds.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 10.] *Third Series.* WEEK ENDING SATURDAY, 8TH MARCH, 1890. [*Price 6d.* [*Annual subscription, post paid,* £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 56.)	Observed during the Week.					Above or below the Mean for the Week.	Accumulated.							
				Averages of				For the Week.				From December 29th, 1889.			
		Highest.	Lowest.	Daily Maxima	Daily Minima.	Daily Mean.		Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	51	14	42·6	29·5	35·9	3 below.	2	− 7	43	+12	89	+18	272	− 42
	1. SCOTLAND, EAST	53	10	44·4	30·2	37·1	1 below.	7	− 8	42	+10	100	− 3	331	− 29
	2. ENGLAND, N.E.	54	20	44·4	32·0	38·0	2 below.	7	− 8	35	+ 7	92	−14	279	− 45
	3. ENGLAND, EAST	58	6	43·5	28·3	35·7	5 below.	4	−15	48	+19	99	−31	349	+ 11
	4. MIDLAND COUNTIES	55	15	44·7	30·3	37·2	4 below.	8	−13	41	+13	122	−23	346	+ 15
	5. ENGLAND, SOUTH	57	13	44·3	29·9	36·9	5 below.	6	−17	43	+22	150	− 6	248	− 10
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	50	18	44·9	34·2	39·4	1 below.	8	− 6	28	+ 4	118	+ 5	226	− 38
	7. ENGLAND, N.W.	52	19	43·6	33·5	38·4	3 below.	4	− 9	30	+ 9	108	− 5	236	− 25
	8. ENGLAND, S.W.	56	14	44·8	32·8	38·6	5 below.	8	−14	33	+20	190	−14	200	+ 45
	9. IRELAND, NORTH	57	17	46·8	35·4	41·0	0 (average)	13	− 5	26	+ 5	141	−14	220	− 10
	10. IRELAND, SOUTH	55	22	47·4	36·3	41·7	2 below.	15	−10	23	+10	217	−13	166	+ 12
	— CHANNEL ISLANDS	55	21	46·8	36·1	41·3	3 below.	13	−13	23	+18	288	+49	71	− 3

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 56.)	Rainfall. For the Week.			Rainfall. From December 29th, 1889.				Bright Sunshine. For the Week.		Bright Sunshine. From December 29th, 1889.			
		Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Hours recorded.	Percentage of possible Duration.	Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	17	7 more.	50	0	11·1	− 1·6	12	17	96	−18	16	− 3
	1. SCOTLAND, EAST	4	7	2 more.	39	+ 3	6·5	+ 0·1	21	27	129	−29	22	− 4
	2. ENGLAND, N.E.	4	2	2 less.	36	0	3·6	− 1·1	21	28	124	+15	20	+ 3
	3. ENGLAND, EAST	5	3	1 less.	40	+ 2	3·7	− 0·8	22	29	169	+26	27	+ 5
	4. MIDLAND COUNTIES	3	2	3 less.	35	− 2	4·2	− 1·5	24	31	143	+14	23	+ 3
	5. ENGLAND, SOUTH	3	4	1 less.	34	− 2	4·5	− 1·4	22	28	154	+24	24	+ 4
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	5	12	0 (average).	43	− 2	10·6	− 1·9	19	26	112	− 1	18	0
	7. ENGLAND, N.W.	5	5	1 less.	42	+ 2	6·1	− 0·9	22	29	136	+21	22	+ 4
	8. ENGLAND, S.W.	4	4	4 less.	40	− 2	7·3	− 2·5	33	43	184	+37	28	+ 5
	9. IRELAND, NORTH	5	4	2 less.	46	− 1	6·4	− 0·9	20	27	136	+ 6	22	+ 1
	10. IRELAND, SOUTH	4	3	4 less.	45	0	9·3	+ 0·2	26	33	166	+11	26	+ 2
	— CHANNEL ISLANDS	5	5	1 less.	45	− 1	7·2	− 0·3	31	40	216	+22	33	+ 4

General Remarks.

Weather during this week has been characterized by great and sudden changes. At times the conditions have been very fair and extremely cold; at other times snow or rain has been general and the air mild. At some of the Scotch stations the snowfall has been heavy. Thunder and lightning occurred over the north of England and in some parts of Ireland on the 8th.

Temperature has been subject to very frequent changes, but has been, on the whole, below the mean in nearly all districts. Soon after the commencement of the week it became exceedingly low for the time of year over England, and during the night of the 3rd—4th the thermometer sank to the abnormally low value of 6° at Hillington, 11° at Rothamsted, and to between 13° and 17° at many of our other southern and south-eastern stations. The newspapers report that much lower values were registered in some parts of Kent and Surrey. In Scotland the absolute minima varied from 10° at Braemar to 18° at Glenlee, and in Ireland from 17° to 22°. Even at Jersey the minimum was as low as 21°. During the latter half of the week the thermometer over England and Ireland was much higher, and maxima were recorded ranging from 52° in "England N.W." to 57° in "Ireland N." and "England S." and 58° in "England E."

Rainfall has been more than the mean over the greater part of Scotland, and has just equalled it in "Scotland W.;" in all other districts, however, a deficit is shown.

Bright Sunshine does not differ materially from that recorded last week, the percentage of the possible amount having ranged from 16 in "Scotland N." to 31 in the "Midland Counties," 33 in "Ireland S.," 40 in the "Channel Islands," and 43 in "England S.W."

Barometer and Wind.—During the earlier part of the week the distribution of pressure was anti-cyclonic, the wind being light from the Westward in the north, and generally moderate from the Eastward in the south. On the morning of the 2nd, however, a moderate to strong North-Easterly gale was experienced over the Channel. As the week progressed the anti-cyclone moved southwards and depressions appeared in the far north. Towards the end of the period the disturbances passed rather more to the southward, and a large and complex system travelled eastwards over Scotland. North-Westerly to Westerly winds, fresh or strong in force, consequently became prevalent, and at some of our more northern stations attained the force of a gale at times.

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III. - DATA from which the SUMMARY on page 55 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	47	25	40·4	30·3	35·2	—3·7	0	48	7	0·91	+0·17	*	*
	Stornoway	48	22	43·6	31·0	37·1	—2·7	4	38	6	1·75	+0·85	13·5	18
	Wick	51	22	41·9	29·3	35·4	—3·5	0	46	5	1·17	+0·69	*	*
	Lairg Ⓢ	49	14	42·9	25·0	33·7	—4·0	3	58	6	1·63	+0·91	*	*
	Glencarron Ⓢ	48	21	42·3	30·4	36·2	—1·4	1	40	6	3·70†	+2·20	?	?
	Fort Augustus Ⓢ	50	21	44·6	31·0	37·6	—1·0	7	39	6	1·18†	?	11·0	15
1. SCOTLAND, E.	Nairn	47	25	42·9	31·3	36·9	—2·8	3	37	5	0·75	+0·37	*	*
	Aberdeen	53	25	43·9	30·4	37·0	—1·9	5	41	5	1·22	+0·64	21·3	28
	Braemar Ⓢ	48	10	41·5	25·6	33·3	—2·5	0	61	5	1·20	+0·59	15·5‡	25‡
	Ochtertyre Ⓢ	53	20	47·7	29·4	38·4	+0·8	16	47	3	0·44	—0·35	*	*
	Leith Ⓢ	53	26	46·3	33·3	39·6	—0·9	12	32	3	0·25	—0·09	*	*
	Marchmont Ⓢ	50	23	44·0	31·1	37·4	—0·7	6	39	4	0·35	—0·17	21·8	29
2 ENGLAND, N.E.	Alnwick Castle	49	20	43·7	31·7	37·5	—1·6	5	36	4	0·31	—0·20	*	*
	Durham	53	26	45·3	31·0	37·9	—1·6	9	39	4	0·14	—0·32	17·2	23
	Shields	54	27	45·3	33·1	39·0	—1·0	9	32	3	0·13	—0·24	*	*
	Scarborough ℳ	53	24	43·9	32·4	38·0	—1·7	5	34	4	0·24	—0·17	23·7‡	31‡
	York	54	25	45·9	31·1	38·3	—1·7	11	39	3	0·18	—0·22	22·7	30
	Spurn Head	49	28	42·3	32·4	37·2	—2·7	1	33	4	0·21	?	*	*
3. ENGLAND, E.	Hillington ℳ	53	6	43·1	26·8	34·7	—5·4	3	52	5	0·49	+0·09	20·8	27
	Yarmouth	52	22	42·6	30·3	36·3	—4·5	2	40	7	0·45	—0·02	*	*
	Geldeston	53	15	43·3	29·6	36·3	—4·5	4	43	5	0·32	—0·05	23·2	30
	Cambridge	58	14	46·0	25·9	35·7	—5·1	11	57	3	0·04	—0·31	22·8	30
	Rothamsted	54	11	42·8	28·8	35·6	—5·2	2	45	4	0·12	—0·34	*	*
	Ingatestone	54	14	43·4	28·5	35·7	—5·9	4	46	5	0·20	—0·13	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	53	21	44·1	29·9	36·8	—4·0	6	42	0	—	—0·38	21·9‡	28‡
	Loughborough	53	18	46·0	29·6	37·6	—3·2	11	45	4	0·12	—0·26	19·6‡	25‡
	Cheadle ℳ	50	21	42·7	31·3	36·8	—2·9	2	37	4	0·24	—0·31	*	*
	Churchstoke ℳ	52	16	43·8	31·6	37·4	—3·2	5	36	3	0·30	—0·20	24·6	32
	Hereford ℳ	55	15	46·0	31·1	38·3	—3·0	11	39	3	0·13	—0·32	*	*
	Cirencester	52	15	45·0	29·1	36·8	—4·0	8	46	3	0·18	—0·33	26·0	34
	Oxford	55	17	45·0	29·4	37·0	—4·1	8	46	3	0·07	—0·31	28·2	37
5. ENGLAND, S.	London	54	15	44·6	29·1	36·6	—5·2	7	45	3	0·20	—0·06	15·0‡	19‡
	Strathfield Turgiss ℳ	57	14	46·1	28·8	37·2	—4·7	11	47	3	0·20	—0·18	*	*
	Dungeness	54	13	42·0	27·1	34·4	—8·5	0	51	4	0·81	+0·36	20·7‡	27‡
	Hastings (St. Leonards)	54	17	43·3	30·1	36·5	—5·9	4	41	4	0·67	+0·22	24·6	32
	Southampton	56	20	45·6	31·6	38·4	—3·9	10	38	3	0·17	—0·36	30·4	39
	Hurst Castle	54	23	44·7	32·1	38·2	—4·7	8	35	2	0·23	—0·26	*	*
	Stowell ℳ	53	19	44·0	30·7	37·2	—4·6	6	40	4	0·21	?	18·3‡	24‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	49	27	45·0	33·6	39·1	—1·0	8	30	6	2·24†	+0·34	*	*
	Glasgow	50	24	44·4	34·7	39·4	—0·6	7	26	4	0·98	+0·33	11·8	16
	Ardrossan	49	25	45·1	34·1	39·4	—0·7	9	28	3	0·75	+0·07	*	*
	Glenlee Ⓢ	49	18	45·0	31·6	38·1	—0·7	8	37	6	1·40	+0·32	*	*
	Douglas (Isle of Man)	50	28	45·2	36·8	40·9	—1·0	9	20	5	0·37	—0·34	26·5	35
7. ENGLAND, N.W.	Newton Reigny	48	19	43·6	32·0	37·6	—1·7	4	35	6	0·54	—0·07	21·1	28
	Stonyhurst	48	23	42·5	31·7	36·9	—3·1	1	35	6	0·94	+0·10	23·3	31
	Blackpool ℳ	47	24	43·1	32·3	37·5	—4·4	3	33	4	0·40	—0·12	23·7	31
	Manchester	50	23	43·3	32·6	37·8	—3·2	4	33	6	0·50	—0·05	*	*
	Liverpool Obsy. (Bidston)	51	26	43·7	33·6	38·5	—3·0	5	30	4	0·19	—0·22	*	*
	Llandudno ℳ	50	25	43·5	35·5	39·4	—3·5	4	23	4	0·34	—0·14	18·7	24
	Holyhead	52	30	45·6	36·9	41·1	—2·2	10	19	6	0·23	—0·28	*	*
8. ENGLAND, S.W.	Llandovery	52	14	45·7	29·7	37·5	—5·2	10	44	5	0·80	—0·15	*	*
	Pembroke	49	27	44·3	35·9	40·0	—4·2	6	22	4	0·20	—0·46	37·1	48
	Arlington (N. Devon)	49	19	42·4	31·0	36·5	—5·3	1	37	3	0·63	—0·27	*	*
	Cullompton ℳ	54	15	46·2	31·0	38·4	—4·1	12	40	3	0·25	—0·43	30·9	40
	Falmouth	52	24	44·3	35·5	39·8	—4·6	6	24	4	0·26	—0·57	35·6	46
	Plymouth	53	23	45·7	33·2	39·3	—4·7	10	32	3	0·25	—0·39	29·4	38
	Prawle Point	56	23	45·3	33·0	39·0	—4·7	9	33	4	0·30	?	*	*
9. IRELAND, N.	Malin Head	48	31	45·0	37·3	41·0	0·0	8	18	6	0·46	?	*	*
	Londonderry	51	27	46·7	35·7	41·0	0·0	13	24	6	0·68	+0·04	*	*
	Mullaghmore	50	28	46·3	37·0	41·5	—0·1	12	19	5	0·50	—0·25	*	*
	Belmullet	51	31	47·6	38·1	42·7	—1·4	21	11	6	0·79	?	*	*
	Markree Castle	53	17	47·0	33·6	40·1	—1·0	14	32	6	0·33	—0·27	17·3	23
	Brookeborough	51	20	46·2	32·0	38·9	—0·9	12	37	5	0·42	?	*	*
	Armagh	53	26	47·1	34·8	40·8	—1·0	14	28	4	0·30	—0·22	22·7	30
	Donaghadee	52	30	47·4	36·1	41·6	—0·3	15	23	6	0·16	—0·34	*	*
	Edgeworthstown	57	24	48·0	34·3	41·0	+0·8	17	30	5	0·29	—0·42	*	*
10. IRELAND, S.	Dublin	54	31	47·5	37·8	42·5	+0·1	21	12	4	0·26	—0·24	27·7	36
	Parsonstown	54	24	47·3	33·1	40·0	—1·8	15	33	4	0·24	—0·29	25·6	33
	Kilkenny	54	27	46·7	35·4	40·9	—0·9	13	25	3	0·40	—0·18	*	*
	Waterford	55	25	47·4	36·0	41·5	—2·3	15	23	5	0·33	—0·39	*	*
	Roche's Point	54	27	47·7	36·6	42·0	—2·4	16	15	3	0·03	—0·86	*	*
	Valencia	54	29	48·6	38·1	43·2	—2·1	25	11	6	0·36	—0·67	23·5	31
	Killarney	52	22	47·7	35·3	41·3	—2·5	16	26	2	0·43	?	*	*
	Foynes	51	28	46·5	38·2	42·2	—0·5	17	11	4	0·35	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	55	30	48·0	? 39·0	? 43·4	—? 2·6	22	8	3	? 0·12	—? 0·46	*	*
	Jersey	51	21	45·6	33·1	39·2	—3·7	10	33	6	0·78	+0·20	30·9	40

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

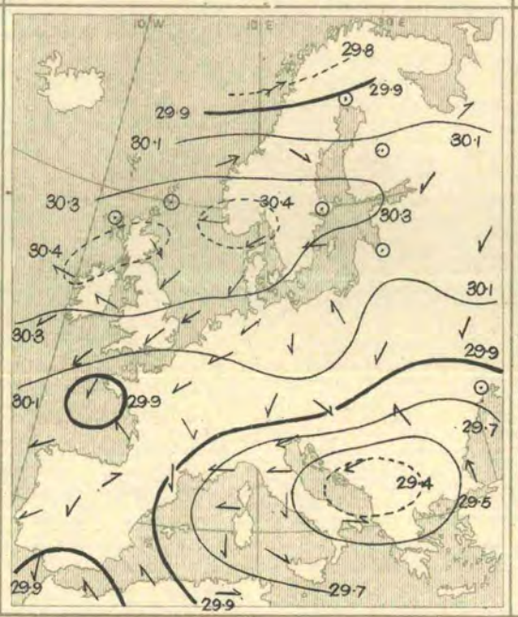
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

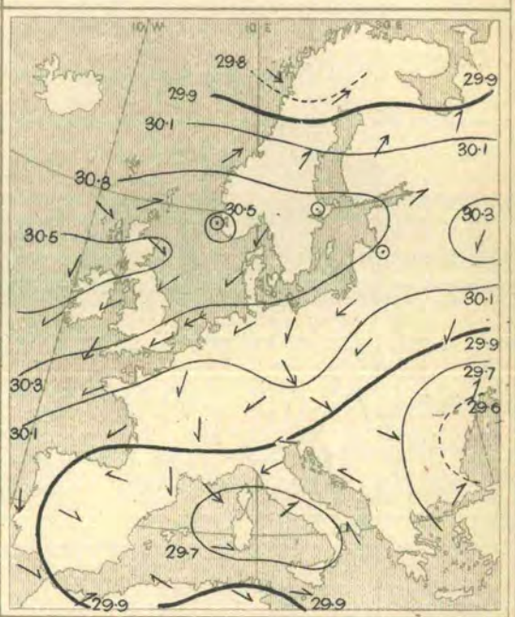
Sunday, 2nd March.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the western and northern parts of our Islands, the southern half of Spain, the greater part of Scandinavia, the Baltic, and in Finland; cloudy and unsettled elsewhere, with snow showers in the east and south of England, rain and sleet in the north and north-west of France, snow in several parts of Russia, Austria, south Germany, the northern shores of the Mediterranean, and the Adriatic. Snowfall not heavy in our Islands later, but showers frequent. Larger falls in Austria and a good deal of rain at some Algerian stations.

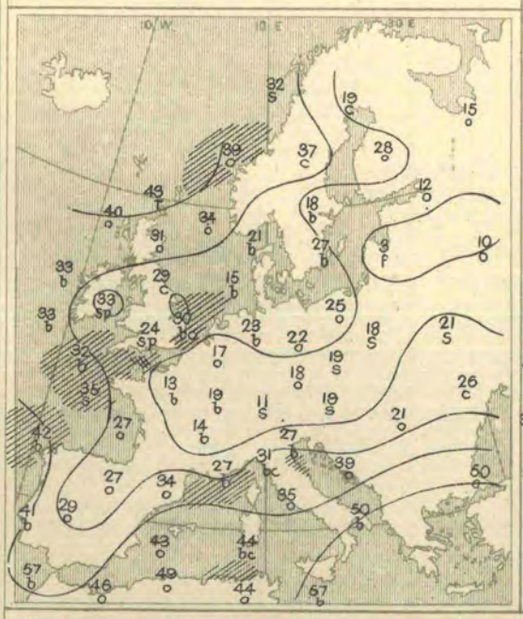
Temperature low all over Europe—very low for the locality at the southern stations. The only morning reading exceeding 50° was 52° at Brindisi. Below 40° throughout our Islands, and below 30° in most places; as low as −6° Faht. at Kuopio, −3° at Uleaborg, 0° at Hangö, +2° at Helsingfors, 6° at Archangel, 8° at Memel, 10° at Riga, Breslau, and Munich, 14° at Warsaw and Moscow, 17° at Berlin, 19° at Lyons, 24° at Toulon, 26° at Paris, 27° at Brussels and in London. Rising over the north of our Islands later, continuing low in south and also on the Continent.

Wind strong to a gale from South-West over the northern half of Norway, nearly calm over the southern half and in Scotland, mainly North-Easterly elsewhere; moderate to strong gale over the Channel and east of England, strong to a gale on northern shores of the Mediterranean, light to moderate elsewhere; light Westerly breezes over southern parts of the Mediterranean. No great change later.

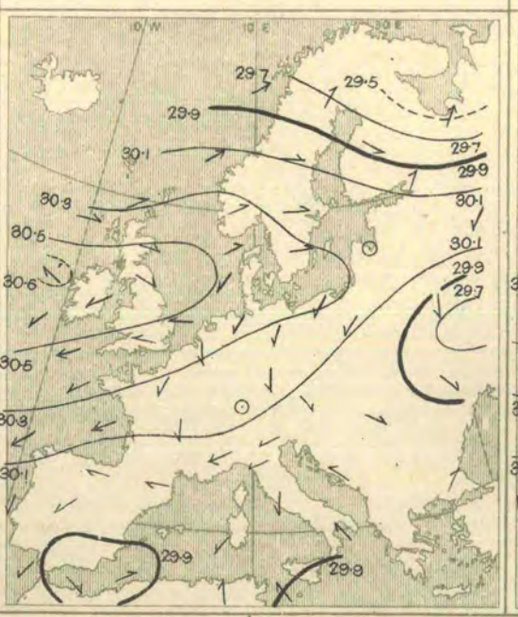
Barometer highest, 30·3 ins. to 30·4 ins. and more, over all the northern parts of our Islands, Denmark, and the southern half of Norway and Sweden; lowest, 29·4 ins. and less, in a well-marked depression over south-eastern Europe, 29·6 ins. and less in a secondary system over Corsica, Sardinia, and Italy, 29·8 ins. and less in a new depression advancing over Finmark, apparently from the north-westward, and 29·9 ins. in a small one advancing over Brittany from north-eastward. Rising in our Islands all day.

Monday, 3rd March.

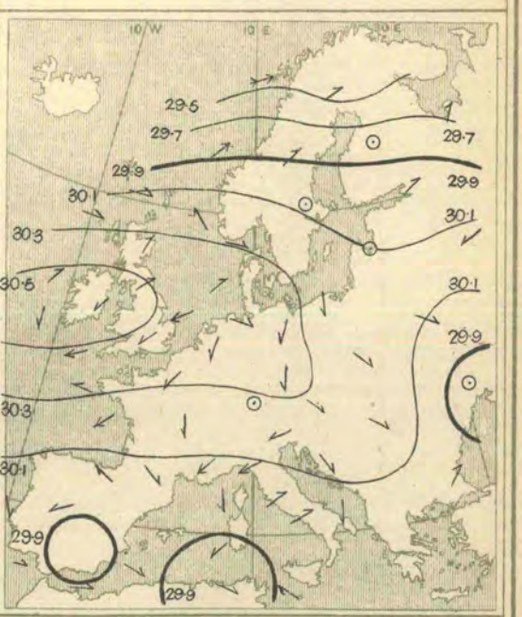
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of western Europe, as well as over the Baltic and the south of Scandinavia, but foggy in the south of Scotland; snow showers reported at Loughborough and Holyhead. Sky overcast elsewhere, with snow at Bodö, Warsaw, Kiev, Breslau, Swinemünde, Memel, Vienna, and Tunis. Heavy snow storm over Jersey and Brittany at night, followed by rain in some places. Further falls of rain in Algeria and at Cagliari.

Temperature highest, 51° at Malta and 50° at Brindisi and Constantinople, 45° and upwards on the coasts of Algeria. Lowest, (1) 3° at Riga, 8° at Memel, 10° at Moscow, and 12° at St. Petersburg; (2) 11° at Munich, 13° at Paris, 14° at Lyons, and 16° at Cape Gris Nez; (3) 18° at Cambridge, 24° in London, and 25° at Loughborough. Frost prevailing in all localities excepting the north of Scotland, the west of Norway, and the extreme southern part of Europe. Decided rise taking place in Scotland later.

Wind Westerly (South-West to North-West) over northern Russia, Scandinavia, and the north of our Islands, fresh or strong in force in the west of Norway; North-Easterly or Easterly over France, Spain, central Europe, and the southern parts of the United Kingdom; strong in the English Channel, light and variable over Algeria and the southern parts of Russia and Italy. Westerly wind freshening in north of Scotland later and a gale setting in over Norway, while Easterly wind at our southern stations moderated.

Barometer highest, 30·3 ins. to 30·6 ins., over our Islands, the North Sea, Denmark, north Germany, and the Baltic; lowest, 29·5 ins. and less, in a depression lying in the neighbourhood of the White Sea, 29·7 ins. and less in another disturbance lying over the south of Russia, 29·9 ins. and less in shallow systems lying respectively over the Adriatic and the western parts of the Mediterranean. Steady fall of the barometer taking place later over Scandinavia and the north of our Islands.

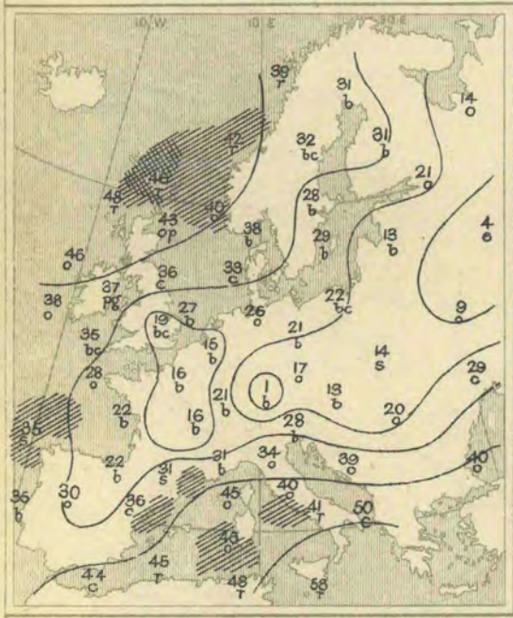
Judd & Co Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 4th March.

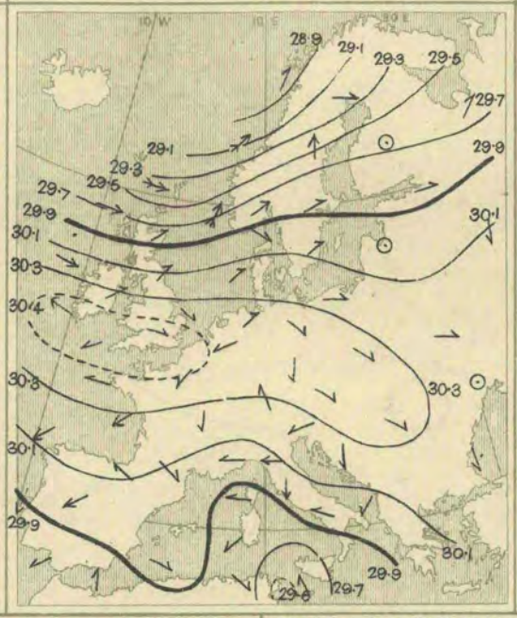
Temperature and Weather.

8 a.m.

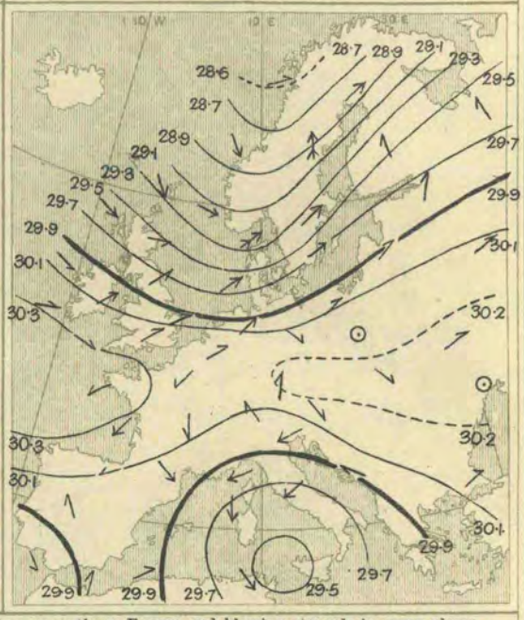


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over nearly the whole of the Continent and the southern half of England, very unsettled over Norway and the northern parts of our Islands, with rain at many stations and snow at Aberdeen. Unsettled and rainy over the south-eastern parts of the Mediterranean also. Snow, sleet, or cold rain falling later in most parts of our Islands, Norway, and Brittany, quantities large at Christiansund and Brest. A great deal of rain at Algerian stations and in the south of Italy.

Temperature highest, (1) 58° at Malta, 50° at Brindisi, and between 40° and 50° on the southern and eastern shores of the Mediterranean generally; (2) 48° at Stornoway and Wick, and above 40° over Scotland, the north of Ireland, and west of Norway. Much lower elsewhere, hard frost being reported over almost all inland parts of Europe and the British Isles; lowest morning values, 1° Faht. at Munich, 4° at Moscow, 9° at Kiev, 13° at Cracow, 15° at Breslau, Münster, and Dungeness, 16° at Paris, and 19° in London. Very cold indeed over Surrey and Kent. Changing very fitfully over the British Isles later, rising over France.

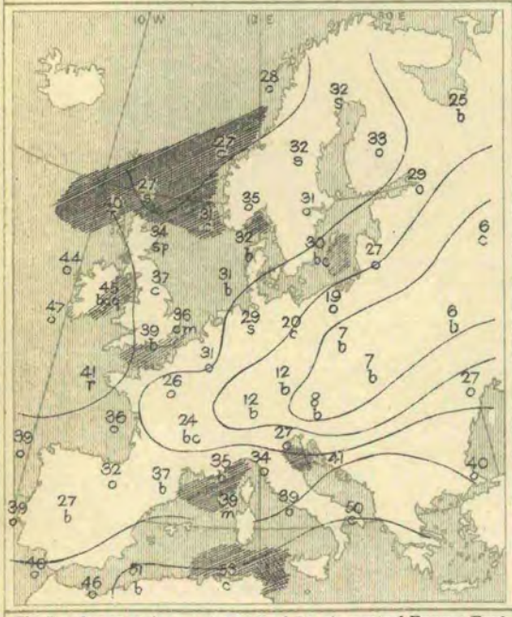
Wind Easterly to North-Easterly over southern Europe, and blowing strongly in many places—a moderate gale at Corunna, light and variable over the southern parts of our Islands; North-Westerly over central Europe, Westerly and South-Westerly over the north of the British Isles and northern Europe, and blowing a gale in several places. Gale subsequently spreading southwards over Scotland.

Barometer highest, 30·3 ins. to nearly 30·5 ins., over the south of Russsia, central Europe, the Netherlands and north of France, and the greater part of England and Ireland; lowest. 28·9 ins. and less, in a large depression approaching Norway from the north-westward, 29·6 ins. and less in another depression off the Tunisian coast. Barometer falling fast over north-western and northern Europe later as the northern depression spread southwards over North Sea and moved eastwards over Lapland.

Wednesday, 5th March.

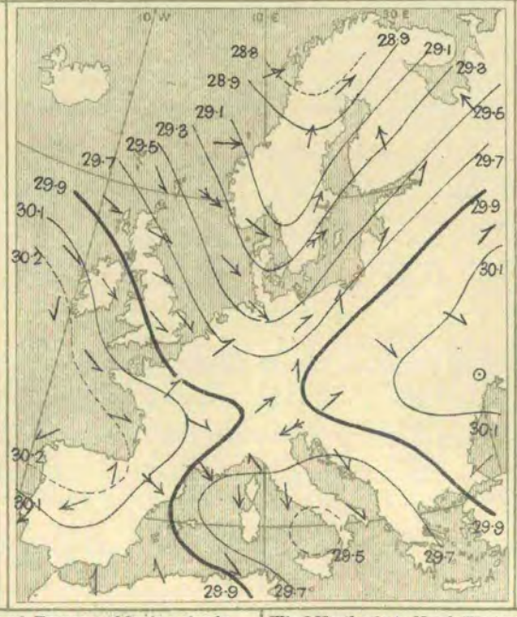
Temperature and Weather.

8 a.m.

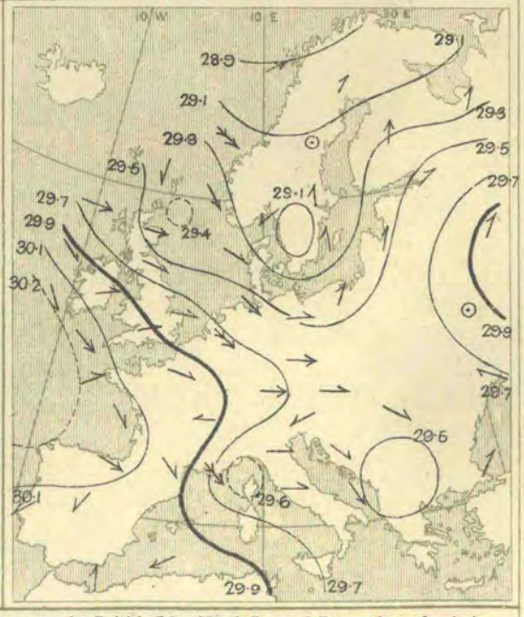


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of Russia, central Europe, England, France, and Spain; cloudy or overcast elsewhere, with snow in several parts of Scandinavia, sleet in the east of Scotland, and rain on our extreme north-west coasts. Rain at our north-western and northern stations later, snow to the eastward of the North Sea and in several parts of France, but amounts small, none of them above half an inch. Heavy rain at Brindisi.

Temperature changing very fitfully over north-western Europe, especially over the British Isles, rising over the Baltic. Morning readings exceeding 50° on the southern shores of the Mediterranean only, ranging from 46° to 47° over the western and south-western parts of our Islands, very low over central and eastern Europe, lowest being −3° Faht. at Cracow, +6° at Kiev and Moscow, 7° at Warsaw and Lemberg, 8° at Breslau and Vienna, 12° at Munich and Prague, 20° at Berlin, 26° at Paris. Rising later to 60° and more over Algeria, 52° at Scilly, and to between 40° and 50° over the British Islands, France, and Germany.

Wind Northerly to North-Westerly over the British Isles, North Sea, and Denmark, moderate to strong in force, and a gale at Skudesnaes and Holyhead; North-Westerly, strong to a gale, over the northern parts of the Mediterranean, Westerly over France, South-Westerly to Southerly, strong to a gale, over the Baltic, very light and variable over Austria and southern Russia. Wind backing Westward in Scotland later and increasing in force.

Barometer highest, 30·0 ins. to 30·2 ins., over Ireland, the Bay of Biscay, and north of Spain, 30·0 ins. to 30·1 ins. and more over Hungary and the south of Russia; lowest, 28·8 ins. and less, in a depression having its centre over Lapland, 29·1 ins. and less in a "V" shaped secondary over Sweden and Norway, 29·5 ins. and less over the south-west of Italy. New small depression (secondary to that over Lapland) advancing over Scotland later, but tending to fill up, and pressure giving way quickly over Austria and southern Russia.

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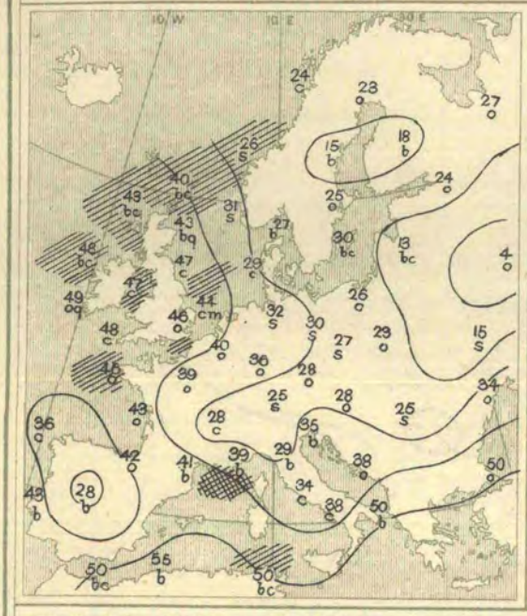
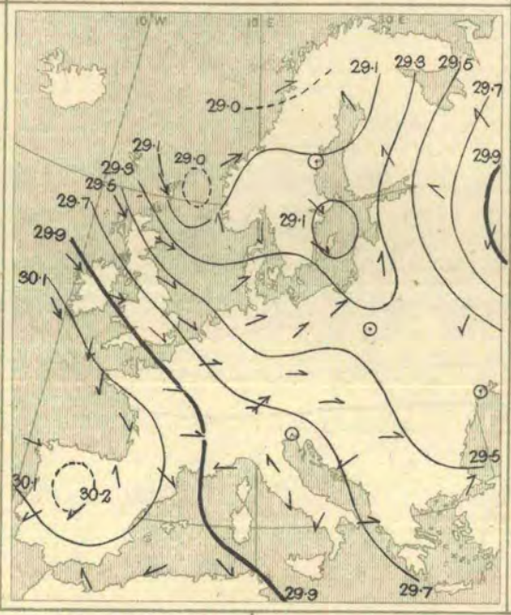
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 6th March.

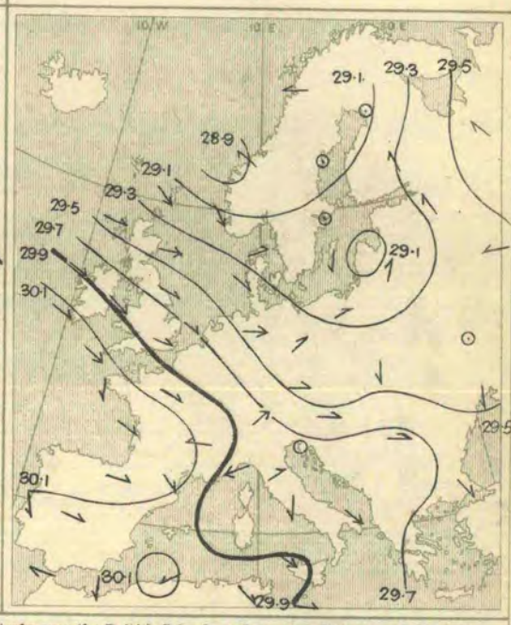
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the Mediterranean and Spain, varying locally, but, as a whole, cloudy and changeable elsewhere, snow in places. Showers of snow later in Scotland and to the eastward of the North Sea, and very slight rain in many parts of Ireland, England, France, and the south of Italy, but with bright intervals; snow showers over central and south-eastern Europe.

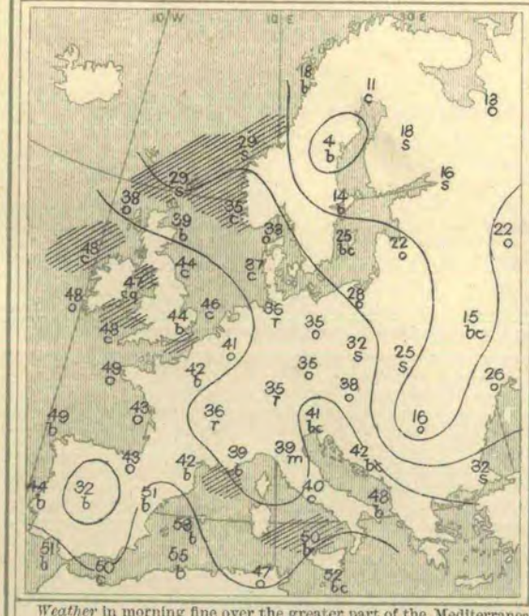
Temperature risen in most places; above 50° in the morning at very few of the extreme southern stations, 40° to 49° over the British Islands and north and west of France, but below 40° almost everywhere else. Frost over northern, eastern, and central Europe, northern Italy, and some parts of France, and readings as low as 4° at Moscow, 13° at Riga, 15° at Kiev and Hernösand, 18° at Kuopio, 20° at Uleaborg, 24° at Bodö and Cracow, 25° at Hermanstadt and Munich. Rising later to between 50° and 56° over England and many parts of France and to 60° at a few of the Algerian stations.

Wind Westerly and North-Westerly over the British Islands and western Europe, and blowing a gale at some northern and north-western stations; Southerly over Norway, Finland, and the Baltic Provinces—a gale at Hangö. Very variable in direction over southern and eastern Europe, and, as a whole, of little force. Not much change later.

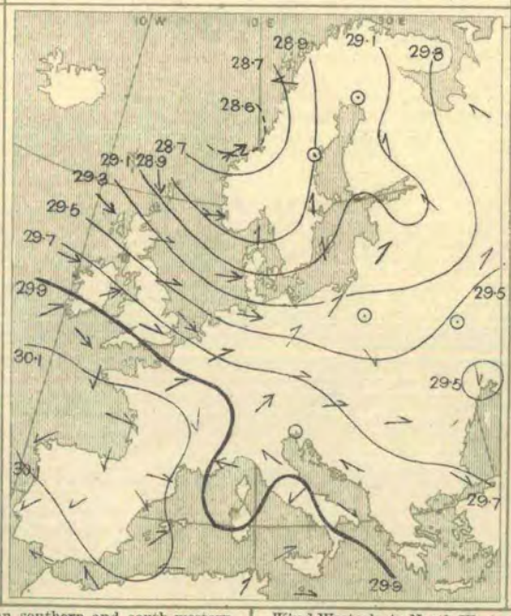
Barometer falling fast over the south of Russia and also over the Baltic; highest, 30·0 ins. to about 30·2 ins., over Spain, the west of France, and the south-west of our Islands, 29·6 ins. to 29·9 ins. over central Russia; lowest, 29·0 ins. and less, over Finmark, 29·1 ins. and less near the Shetland Islands and also near Stockholm, 29·4 ins. and less over the Black Sea, and 29·8 ins. and less over the Gulf of Genoa. Changing irregularly in the north of our Islands later, rising in the south and over France; depression near Stockholm moving to Baltic Provinces later, that near Shetlands advancing north-eastwards to Norway.

Friday, 7th March.

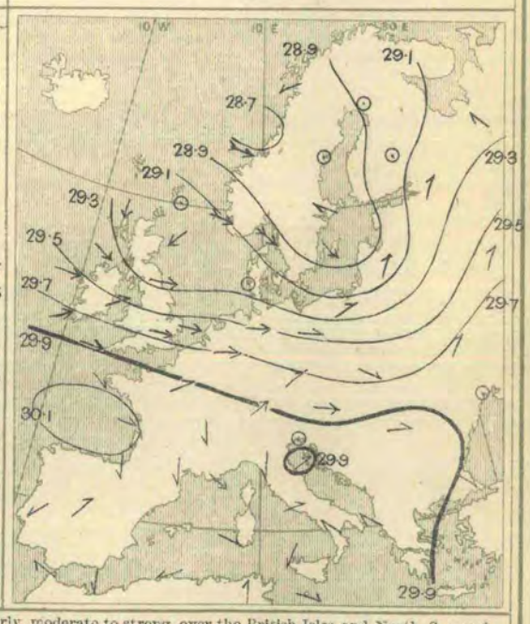
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine over the greater part of the Mediterranean, southern and south-western Europe, the north of France, south of England, and Norway; dull, changeable, and unsettled elsewhere, with snow or rain in several parts of central and northern Europe, as well as in the west and north-west of the British Isles. Much snow over the northern half of Scotland later and smaller amounts in Norway. Rain in the west of Scotland and some showers over Ireland and the west of England generally and in Germany.

Temperature 50° or more in extreme south and east of Spain, Algeria, Sicily, and Malta only, 40° to 49° over Ireland, England, France, and north of Spain; lower elsewhere. Below the freezing point over northern Europe, the Baltic, Russia, and some parts of Austria, and as low as 4° at Hernösand, 11° at Haparanda, 13° at Bodö and Archangel, 15° at Kiev, 16° at Hermanstadt, and 20° at Kharkov. Rising to between 50° and 58° over France, England, and Ireland later, but not reaching 40° over northern half of Scotland. Exceeding 60° in Algeria, Sicily, and the south of Spain, the highest readings of all being 68° at Laghouat and 64° at Palermo and Nemours.

Wind Westerly to North-Westerly, moderate to strong, over the British Isles and North Sea, and blowing a gale from West and South-West in west of Norway; Westerly, moderate to fresh, over central Europe; Southerly, light to moderate, over the Baltic. Very variable and, as a whole, light over the Mediterranean: North-Easterly in Spain. Some increase of force taking place later over Ireland and England; wind shifting to the Northward or North-Eastward in Scotland.

Barometer highest, 30·0 ins. to nearly 30·2 ins., over Spain, the Bay of Biscay, and west and south of France, 29·9 ins. to 30·0 ins. and more, over the southern parts of the Mediterranean, lower elsewhere; lowest, 28·6 ins. and less, in depression lying over Norway, 29·0 ins. and less in a smaller disturbance over Gulf of Finland, and 29·5 ins. and less at Odessa. New (shallow secondary) disturbance advancing over Scotland from north-westward later. Pressure changing irregularly. Norwegian depression subsequently travelling north-eastwards, but new disturbance forming over Scotland; barometer falling decidedly in the west and north of our Islands.

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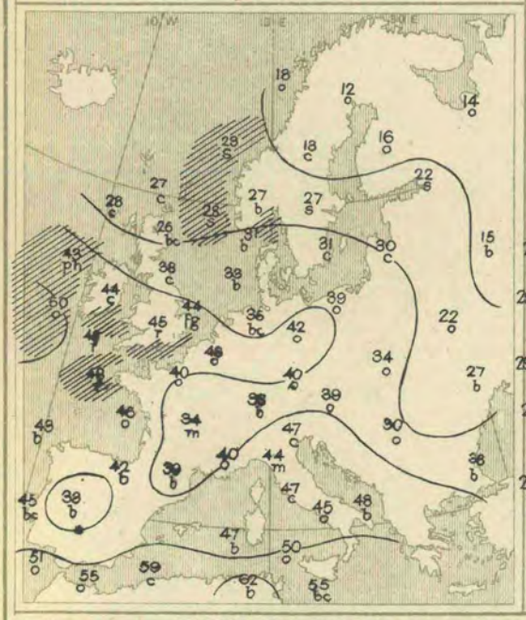
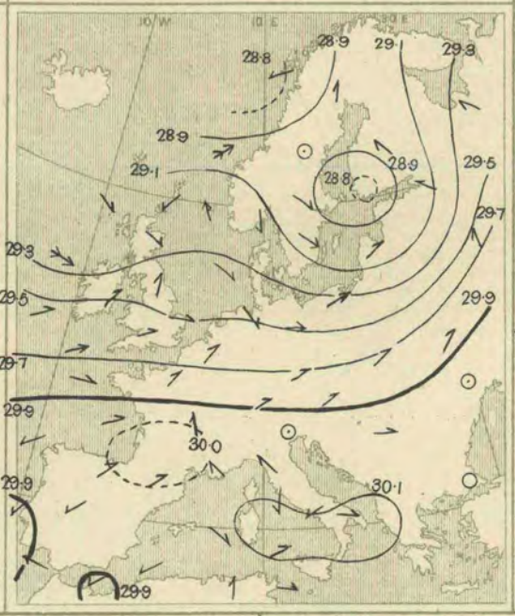
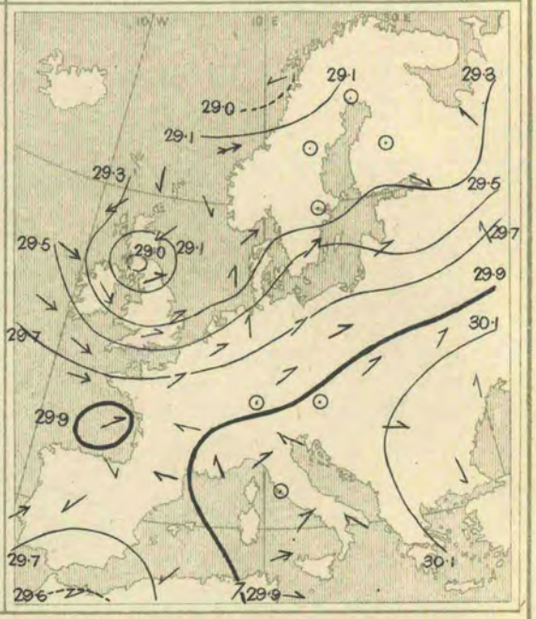
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 8th March.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather varying greatly in different localities. Fine in the north and north-east of Great Britain, as well as in Denmark and the greater part of southern Europe; cloudy or overcast elsewhere, with rain in the north of Ireland and the south-east of England, and snow over the Baltic and the west of Norway. Heavy snow falling later in Scotland and hail or rain showers over Ireland and England; sharp thunderstorm passing over our midland and northern counties in afternoon.

Temperature highest, 55° and upwards, on the Algerian coasts and over the central parts of the Mediterranean (La Calle 62°, Algiers 59°, Oran 56°); high, 45° to 50°, over the western and southern parts of the United Kingdom and the greater part of southern Europe; lowest, 9° at Uleaborg, 12° at Haparanda, 13° at Hernösand, 14° at Archangel, and 15° at Moscow; below the freezing point over northern and eastern Europe generally, as well as in Scotland. Fall taking place later over the western parts of the United Kingdom.

Wind light from the North-Westward in Scotland, moderate or fresh from the same quarter over Denmark and the south of Scandinavia; South-Westerly or Westerly over Ireland, England, France, and the greater part of central Europe; strong to a gale in the north of Ireland; light from the Southward or South-Eastward in Russia and from the North-Eastward at several of the Spanish and Italian stations; variable in Algeria. Subsequently blowing with considerable force in all parts of the United Kingdom, from North-West or West on our western and southern coasts, and from North-East in Scotland.

Barometer highest, 30·1 ins. and upwards, over the south of Italy; high, 30·0 ins. and upwards, over nearly the whole of southern Europe; lowest, 28·8 ins. and less, in a depression lying off the north-west of Norway and also in another lying over the Gulf of Finland. New disturbance with similarly low readings subsequently advancing from the westward to the extreme north of Ireland and passing across the south of Scotland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows: b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week a decided change has been experienced in the distribution of pressure over Europe. The strongly-marked anti-cyclonic band, which at the beginning of the week stretched from the Atlantic across the British Islands and North Sea to the Baltic and Russia, moved slowly southwards during Monday and Tuesday, causing unusually severe frost (for the time of year) over the south-eastern parts of England as it passed over, while in its rear mild breezes from the Westward set in over the whole of the United Kingdom and northern Europe. On Wednesday this high-pressure system had moved westwards and lay over the Atlantic and extreme western parts of Europe only, while another similar system was developed over Russia. Depressions of considerable size and depth now appeared over Lapland, and from these an extensive "V" shaped secondary spread southward over the eastern shores of the North Sea and Baltic to Germany; well-marked disturbances were developed simultaneously over the Mediterranean, south-eastern Europe, and the Black Sea. The Russian anti-cyclone soon gave way and strong Westerly to North-Westerly winds became general over north-western Europe, increasing to a gale from time to time, as some rather small depressions appeared over our north-western and northern districts, and travelled south-eastwards or eastwards across the northern parts of our Islands and the North Sea.

Judd & Cº Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 11.] *Third Series.* WEEK ENDING SATURDAY, 15TH MARCH, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 62.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	55	13	47·4	34·6	40·8	2 above.	15	+ 6	28	− 4	104	+20	300	− 42
	1. SCOTLAND, EAST -	63	20	51·2	37·1	43·9	5 above.	34	+19	14	−18	134	+13	345	− 46
	2. ENGLAND, N.E. - -	60	27	52·0	39·6	45·6	6 above.	35	+20	7	−21	127	0	286	− 65
	3. ENGLAND, EAST -	60	24	51·9	36·0	43·7	3 above.	37	+16	17	−12	136	−25	366	− 1
	4. MIDLAND COUNTIES	61	25	52·2	38·5	45·0	4 above.	36	+13	10	−18	158	−18	356	− 3
	5. ENGLAND, SOUTH -	60	27	51·8	38·8	45·1	3 above.	35	+10	9	−13	185	− 1	257	− 24
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	59	25	48·9	38·9	43·8	3 above.	26	+11	9	−14	144	+12	235	− 51
	7. ENGLAND, N.W. -	58	25	50·2	40·0	45·0	3 above.	29	+13	6	−15	137	+ 2	242	− 38
	8. ENGLAND, S.W. -	56	29	50·1	41·3	45·6	2 above.	28	+ 3	2	−12	218	−16	202	+ 33
	9. IRELAND, NORTH -	57	28	50·0	40·5	45·1	3 above.	28	+ 8	4	−17	169	−10	224	− 26
	10. IRELAND, SOUTH -	60	28	52·3	41·5	46·8	3 above.	36	+ 9	1	−13	253	− 6	167	− 1
	— CHANNEL ISLANDS -	55	32	51·8	42·5	47·0	2 above.	35	+ 7	0	− 5	323	+50	71	− 8

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 62.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	6	23	4 more.	56	+ 2	13·4	− 1·2	11	13	107	−23	16	− 3
	1. SCOTLAND, EAST -	5	4	1 less.	44	+ 5	6·9	0·0	23	29	152	−35	23	− 4
	2. ENGLAND, N.E. - -	2	1	4 less.	38	− 1	3·7	− 1·4	21	26	145	+ 5	21	+ 1
	3. ENGLAND, EAST -	3	2	1 less.	43	+ 3	3·9	− 1·0	27	33	196	+18	28	+ 3
	4. MIDLAND COUNTIES-	3	2	2 less.	38	0	4·4	− 1·7	23	29	166	+ 6	23	+ 1
	5. ENGLAND, SOUTH -	3	2	2 less.	37	− 1	4·7	− 1·6	26	32	180	+16	25	+ 2
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	6	15	0 (average).	49	+ 1	12·1	− 1·9	17	22	129	− 7	19	0
	7. ENGLAND, N.W. - -	4	6	0 (average).	46	+ 3	6·7	− 0·8	14	16	150	+ 9	21	+ 1
	8. ENGLAND, S.W. - -	3	4	3 less.	43	− 1	7·7	− 2·8	14	18	198	+15	27	+ 2
	9. IRELAND, NORTH -	6	13	7 more.	52	+ 1	7·7	− 0·2	12	16	148	− 9	21	− 1
	10. IRELAND, SOUTH -	4	13	6 more.	49	+ 1	10·6	+ 0·8	17	21	183	− 1	25	0
	— CHANNEL ISLANDS -	2	2	4 less.	47	− 1	7·4	− 0·7	34	42	250	+ 8	34	+ 2

General Remarks.

Weather was dull, with rather frequent falls of rain, over Ireland and the west and north of Scotland; fair generally over the greater part of England and the east of Scotland. Heavy rain fell at some of the northern Scotch stations during the earlier days of the week, and in some parts of Ireland on Saturday.

Temperature was rather low at the commencement of the period, and minima were recorded ranging from 13° in "Scotland N." and 20° in "Scotland E." to 29° in "England S.W." and 32° in the "Channel Islands." Subsequently, however, it became high for the time of year and the maxima varied from 55° in "Scotland N." and the "Channel Islands" to 60° over the greater part of England and in "Ireland S." and to 63° in "Scotland E." The average values for the week ranged from 3° above the normal in the "Channel Islands," "England S.W.," and "Scotland N." to 4° in the "Midland Counties," 5° in "Scotland E.," and 6° in "England N.E."

Rainfall has been more than the mean over Ireland and in "Scotland N.," and about equal to it in "Scotland W." and "England N.W.;" in all other districts there has been a deficit.

Bright Sunshine has been very little prevalent in the west and north; in the east and south, however, the percentage of the possible duration ranged from 29 to 33, while in the "Channel Islands" 42 % was recorded.

Barometer and Wind.—During the earlier part of the period the barometer was highest in the south and lowest in the north, and depressions, passing eastwards or north-eastwards, skirted our extreme northern coasts. Gradients were rather steep and fresh or strong Westerly winds were prevalent over our Islands; in the north and north-west they occasionally increased to the force of a gale. As the week progressed the barometer fell very generally and some "V"-shaped disturbances moved eastwards directly over the Kingdom. With this change the wind backed to the Southward and blew strongly in all the more western and northern parts of the country.

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III.—DATA from which the SUMMARY on page 61 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	49	22	46·0	35·7	40·7	+1·8	11	24	5	0·97	+0·27	*	*
	Stornoway	53	22	47·4	33·9	40·5	+0·6	15	31	7	0·98	+0·10	12·1	15
	Wick	54	20	49·3	33·9	41·4	+2·5	20	32	5	0·48	+0·03	*	*
	Lairg ⚓	52	13	47·0	32·7	39·6	+1·5	14	34	6	1·68	+0·98	*	*
	Glencarron ⚓	50	21	46·4	34·4	40·2	+2·2	12	28	7	6·65†	+5·23	?	?
	Fort Augustus ⚓	55	24	48·2	37·0	42·5	+3·7	25	14	7	3·12†	?	8·9	11
1. SCOTLAND, E.	Nairn	56	21	52·4	35·9	43·9	+4·0	39	17	5	0·55	+0·15	*	*
	Aberdeen	63	23	51·6	36·0	43·6	+4·5	36	17	3	0·21	—0·31	24·9	32
	Braemar ⚓	54	20	46·4	34·7	40·4	+4·4	12	28	3	0·85	+0·27	23·3‡	30‡
	Ochtertyre ⚓	60	30	53·0	39·7	46·2	+7·9	39	6	5	0·24	—0·46	*	*
	Leith	56	29	53·1	39·6	46·2	+5·4	39	7	6	0·12	—0·19	*	*
	Marchmont ⚓	55	25	50·4	36·6	43·3	+4·7	32	15	5	0·24	—0·27	20·0	25
2 ENGLAND, N.E.	Alnwick Castle	55	31	51·3	41·7	46·4	+6·8	32	1	1	0·15	—0·34	*	*
	Durham	58	27	52·0	39·0	45·3	+5·7	36	8	0	—	—0·48	24·3	30
	Shields	59	28	54·1	40·0	46·8	+6·7	42	6	1	0·01	—0·34	*	*
	Scarborough ⚓	58	30	51·2	39·8	45·3	+5·4	32	6	3	0·03	—0·38	19·8‡	25‡
	York	60	30	53·4	38·7	45·8	+5·4	40	9	3	0·03	—0·35	18·8	23
	Spurn Head	56	31	50·1	38·6	44·2	+4·1	30	10	1	0·07	?	*	*
3. ENGLAND, E.	Hillington ⚓	59	29	52·4	37·5	44·7	+4·7	38	13	2	0·23	—0·13	24·3	30
	Yarmouth	58	30	48·7	36·1	42·2	+1·3	26	17	2	0·06	—0·35	*	*
	Geldeston	59	29	52·3	36·5	44·2	+3·4	39	15	4	0·16	—0·19	30·2	37
	Cambridge	60	27	53·9	34·6	44·0	+3·0	45	21	2	0·23	—0·07	26·8	33
	Rothamsted	58	28	51·7	36·0	43·6	+2·6	36	17	3	0·36	—0·04	*	*
	Ingatestone	58	24	52·3	35·2	43·5	+1·7	39	19	3	0·35	0·00	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	60	30	53·3	38·4	45·6	+4·7	40	10	3	0·15	—0·20	23·8‡	30‡
	Loughborough	61	32	54·4	39·1	46·5	+5·7	44	8	2	0·15	—0·17	26·2‡	33‡
	Cheadle ⚓	58	30	50·3	38·2	44·1	+4·3	31	11	4	0·39	—0·11	*	*
	Churchstoke ⚓	58	36	51·0	40·9	44·8	+4·2	24	3	5	0·34	—0·11	21·5	27
	Hereford ⚓	58	31	53·9	39·2	46·3	+4·7	42	8	3	0·05	—0·33	*	*
	Cirencester	56	25	51·1	35·2	42·9	+1·6	35	19	2	0·09	—0·38	22·6	28
	Oxford	57	32	51·4	38·7	44·9	+3·1	34	9	3	0·21	—0·14	21·6	27
5. ENGLAND, S.	London	60	31	53·4	38·0	45·5	+3·2	41	11	2	0·28	—0·04	22·4‡	28‡
	Strathfield Turgiss ⚓	59	29	55·0	37·2	45·8	+3·8	47	13	5	0·20	—0·12	*	*
	Dungeness	55	27	49·3	37·9	43·4	+0·4	27	11	1	0·14	—0·27	28·8‡	36‡
	Hastings (St. Leonards)	55	31	51·0	38·9	44·8	+2·1	33	9	2	0·20	—0·21	40·3	50
	Southampton	59	31	53·9	40·5	47·0	+4·2	41	4	3	0·10	—0·35	27·3	34
	Hurst Castle	54	33	49·6	39·7	44·5	+1·3	27	6	1	0·06	—0·36	*	*
	Stowell ⚓	55	30	50·2	39·3	44·6	+2·6	30	8	4	0·15	?	11·0‡	14‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	59	28	50·0	38·0	43·8	+3·6	29	11	7	4·78†	+3·06	*	*
	Glasgow	53	29	49·2	39·3	44·1	+3·8	26	8	5	0·54	—0·05	17·0	21
	Ardrossan	53	29	48·9	39·3	44·0	+3·3	25	8	6	0·60	0·00	*	*
	Glenlee ⚓	54	25	47·4	37·1	42·2	+2·6	22	14	7	0·98	0·00	*	*
	Douglas (Isle of Man)	55	33	49·2	40·7	44·8	+3·8	25	4	5	0·73	+0·06	17·4	22
7. ENGLAND, N.W.	Newton Reigny	53	25	48·7	37·3	42·8	+3·0	25	13	4	0·43	—0·11	19·4	24
	Stonyhurst	54	30	48·9	39·3	44·0	+3·3	25	8	5	1·05	+0·25	6·3	8
	Blackpool ⚓	54	30	48·9	39·2	43·9	+1·5	25	8	3	0·28	—0·21	9·5	12
	Manchester	58	30	50·6	39·1	44·7	+3·6	31	8	4	1·23	+0·69	*	*
	Liverpool Obsy. (Bidston)	58	32	53·4	41·4	47·2	+5·3	39	2	3	0·20	—0·20	*	*
	Llandudno ⚓	56	33	51·0	42·3	46·5	+3·4	32	0	3	0·40	—0·05	20·6	26
	Holyhead	53	35	49·9	41·7	45·7	+2·2	27	1	4	0·40	—0·10	*	*
8. ENGLAND, S.W.	Llandovery	55	32	50·7	40·0	45·2	+2·4	31	6	5	0·90	+0·08	*	*
	Pembroke	50	37	48·4	42·3	45·3	+0·9	23	0	4	0·26	+0·33	15·3	19
	Arlington (N. Devon)	51	30	48·9	39·7	44·2	+2·4	25	6	3	0·56	—0·24	*	*
	Cullompton ⚓	56	29	51·5	40·7	45·9	+3·1	33	4	3	0·14	—0·44	13·1	16
	Falmouth	56	36	50·5	42·9	46·6	+1·8	32	0	2	0·26	—0·51	14·9	18
	Plymouth	56	34	52·1	42·5	47·2	+2·8	36	0	3	0·14	—0·44	13·9	17
	Prawle Point	51	34	48·7	41·3	44·9	+1·1	23	2	2	0·20	?	*	*
9. IRELAND, N.	Malin Head	51	32	48·3	39·3	43·7	+2·4	23	8	6	1·07	?	*	*
	Londonderry	53	31	49·8	40·4	45·0	+4·0	28	4	7	1·28	+0·65	*	*
	Mullaghmore	54	32	49·6	41·9	45·6	+3·6	26	0	7	1·41	+0·71	*	*
	Belmullet	52	35	49·6	42·7	46·1	+1·3	29	0	7	1·14	?	*	*
	Markree Castle	56	31	50·8	40·1	45·3	+3·6	31	5	6	1·17	+0·59	11·3	14
	Brookeborough	53	28	48·5	38·6	43·4	+3·2	24	10	5	1·77	?	*	*
	Armagh	55	31	50·5	40·5	45·4	+3·6	30	4	5	1·29	+0·80	13·3	17
	Donaghadee	57	33	52·7	40·9	46·6	+3·8	37	3	3	0·63	+0·18	*	*
	Edgeworthstown	54	28	50·6	40·0	45·1	+4·6	30	6	6	1·52	+0·84	*	*
10. IRELAND, S.	Dublin	60	31	53·3	42·9	48·0	+5·1	42	0	3	0·86	+0·39	24·5	31
	Parsonstown	58	30	52·0	38·4	45·0	+2·8	36	10	5	1·53	+1·00	15·3	19
	Kilkenny	57	28	52·3	40·3	46·1	+4·3	36	5	4	1·59	+1·07	*	*
	Waterford	60	28	53·3	39·6	46·3	+2·3	40	7	4	1·50	+0·80	*	*
	Roche's Point	56	34	51·9	42·0	46·8	+2·4	34	0	4	2·01	+1·08	*	*
	Valencia	55	37	51·6	43·3	47·3	+1·9	37	0	6	0·72	—0·37	11·1	14
	Killarney	56	34	52·1	42·2	47·0	+2·9	35	0	4	1·46	?	*	*
	Foynes	56	37	51·6	45·6	47·5	+4·6	39	0	5	1·03	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	54	42	51·9	44·6	48·1	+1·7	43	0	3	? 0·37	—0·23	*	*
	Jersey	55	32	51·6	40·4	45·8	+2·5	33	4	1	0·01	—0·59	33·9	42

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

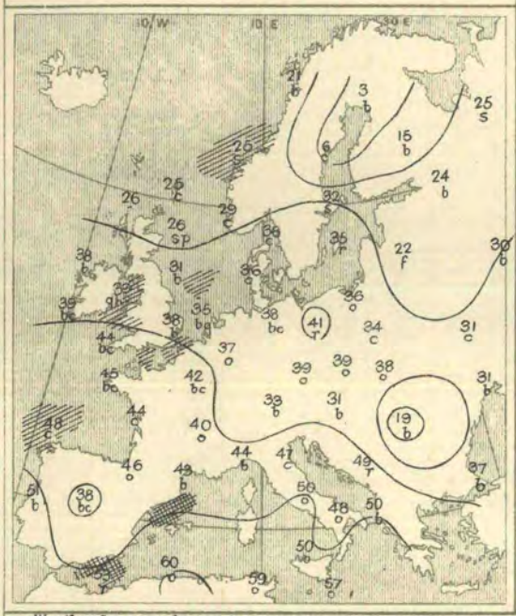
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

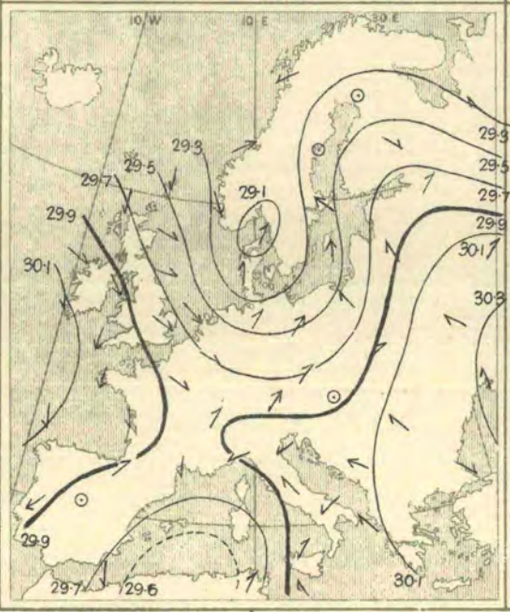
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 9th March.

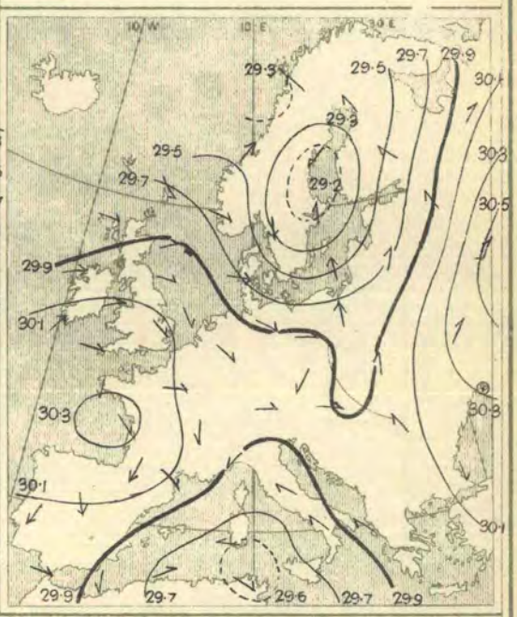
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of the United Kingdom and France (but with snow showers in one or two places), as well as at most of the Russian stations, and over the southern parts of Spain, Germany, and Austria; dull elsewhere, with rain in Germany and snow at many of the Scandinavian stations. Snow squalls occurring during day in many parts of Great Britain. Dull rainy weather setting in on our extreme western coasts in evening and heavy rain falling in Sardinia and Algeria, with a thunderstorm at Sfax.

Temperature highest, 55° and upwards, on the Algerian coasts and over the central parts of the Mediterranean (Algiers 60°, La Calle 59°, Sfax and Malta 57°); high, 45° and upwards, on the coasts of Spain and Italy; lowest, (1) 3° at Haparanda, 6° at Hernösand, 7° at Uleaborg, and 15° at Kuopio; (2) 19° at Hermanstadt, 24° at Kharkov, and 25° at Nicolaieff; below the freezing point over nearly the whole of northern and eastern Europe, as well as over the northern parts of the United Kingdom. Brisk rise taking place later in the extreme west of our Islands, and thermometer exceeding 50° in some places. Daily maxima above 60° in Algeria and the southern parts of Spain and Italy.

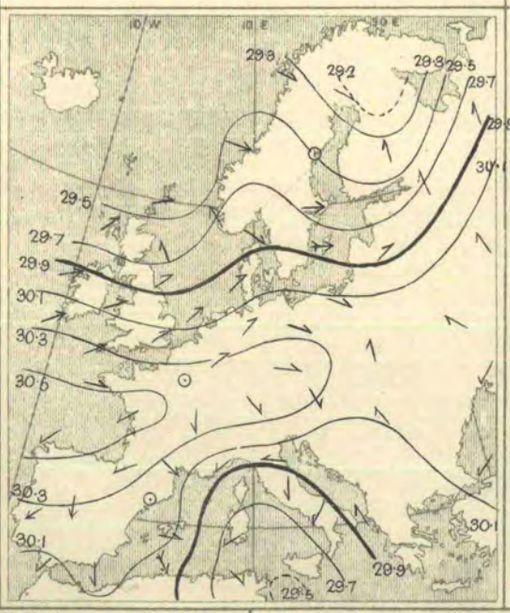
Wind moderate to strong from the North-Westward over our Islands and France, and from the South-Westward in Germany; light or variable from the Southward or South-Eastward over Russia and the Baltic, variable in Italy and Algeria, moderate to strong from the Northward on the coasts of the Iberian Peninsula. Subsequently backing to the South-Westward on our extreme west coasts and increasing to a strong breeze. Southerly wind rising to a gale at the mouth of the Gulf of Finland.

Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over the southern parts of Russia; high, 30·1 ins. and upwards, in another system lying to the south-westward of Ireland and the north-westward of the Iberian Peninsula; lowest, 29·1 ins. and less, in a well-marked depression having its centre over the Skager Rock; low, 29·6 ins. and less, in a shallow disturbance lying over Algeria. Northern depression subsequently moving away to the north-eastward, but new disturbance approaching our extreme north-west coasts from the Atlantic. Anti-cyclone over Russia increasing in height and spreading northwards.

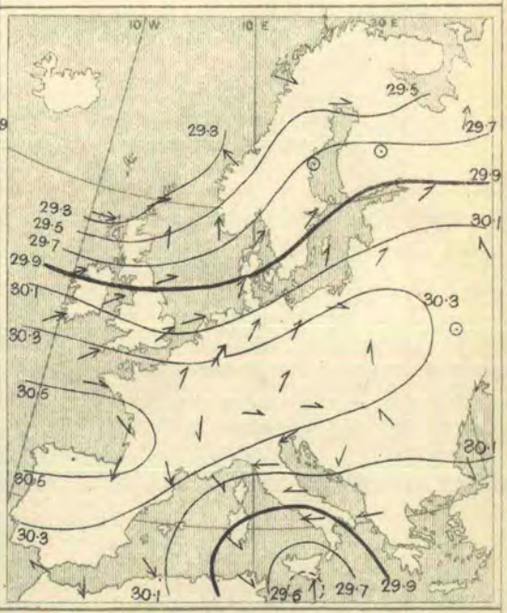
Monday, 10th March.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in Sweden, Denmark, Germany, France, and Spain, and also in the east of Scotland; cloudy or overcast elsewhere, with steady and continuous rain over the greater part of England, as well as in Tunis and some parts of Italy, and snow at Christiansund, Stockholm, Cracow, and Vienna. Rain falling during day in most parts of western Europe.

Temperature highest, 50° and upwards, over Ireland, as well as at the Mediterranean stations (Cagliari and La Calle 55°, Oran and Algiers 54°, Nemours 53°, Valencia, Roche's Point, Palma, and Brindisi 52°); lowest, 15° at Haparanda, 19° at Moscow, 21° at Hernösand, 24° at Stockholm, 26° at Faerder, and 27° at Christiansund and Paris; frost prevailing in nearly all parts of northern and central Europe. Daily maxima exceeding 50° in nearly all parts of our Islands and France; thermometer reaching 56° at Leith and Shields and 57° at Donaghadee. Thermometer rising above 60° in Italy and Algeria, the highest reading of all being 73° at Nemours.

Wind South-Westerly or Westerly over our Islands, the Netherlands, Denmark, the Baltic, and the Gulf of Finland; strong in force in many places, with gales at Helsingfors and Wisby; Westerly over the northern parts of Scandinavia; light from the Northward (North-West to North-East) over the greater part of central and southern Europe, as well as in Algeria. Variable in the south of Russia. Subsequently increasing to moderate or fresh gale from the South-westward on our extreme north-Western coasts.

Barometer highest, 30·5 ins. and upwards, in an anti-cyclone lying over the Bay of Biscay, and also in another system lying over central Russia; lowest, 29·2 ins. and less, in a depression lying over Lapland, 29·4 ins. and less in another disturbance lying to the northward of the Shetlands, 29·5 ins. and less in a third lying off the Tunisian coasts. Gradients rather steep in most parts of northern and north-western Europe. New depression subsequently approaching the north-west of Scotland, and barometer falling briskly in the Hebrides. Disturbance off coasts of Tunis moving slowly northwards.

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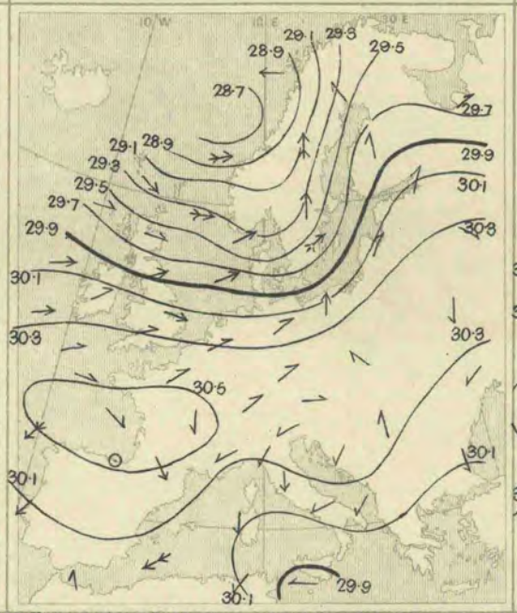
II.—SUMMARY OF WEATHER OVER EUROPE.

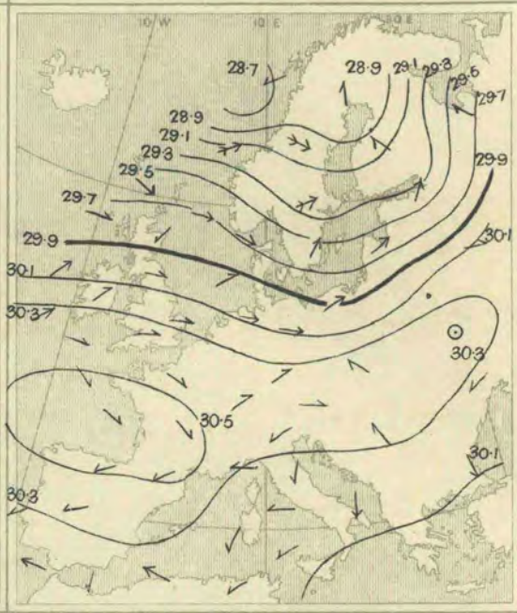
Tuesday, 11th March.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather cloudy or overcast in all parts of northern and north-western Europe and also in Algeria, with rain in Germany and the west of Norway and snow in Sweden; fine over Russia, Austria, and the whole of southern Europe. Sky clearing later in many parts of Great Britain and also in Sweden, but slight rain falling at several of the Scotch and Irish stations. Snow reported over Finland in evening.

Temperature highest, 55° and upwards, over the central and southern parts of the Mediterranean (Nemours 61°, Malta 59°, Algiers and La Calle 55°); high, 50° to 53°, in many parts of the United Kingdom; lowest, 10° at Haparanda, 12° at Uleaborg, 16° at Kuopio, 19° at Hermanstadt, 21° at Archangel, 23° at Bodö, 24° at St. Petersburg; below the freezing point at nearly all the Swedish, Russian, and Austrian stations. Subsequently rising to between 55° and 60° over the central and eastern parts of Great Britain, and to 65° or more at some of the Algerian stations, the highest reading of all being 68° at Biskra.

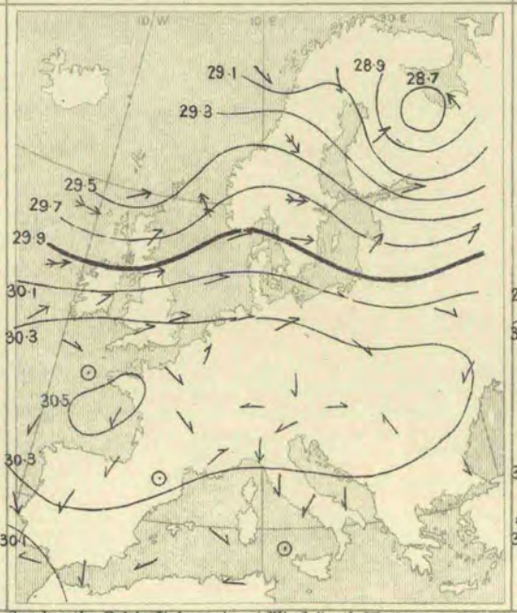
Wind Westerly or South-Westerly over the greater part of north-western Europe, but North-Westerly in the extreme north of Scotland; strong in force in many places, with a gale in Caithness and the west of Norway; strong to a gale from the Southward over Sweden and the Baltic, Northerly or North-Easterly over Italy, the Iberian Peninsula, and the south of France; light and variable over Austria and the south of Russia. Subsequently veering to the Westward in Sweden and to the South-Westward over the Baltic, but no great change observed elsewhere.

Barometer highest, 30·5 ins. and upwards, over France and the Bay of Biscay, 30·3 ins. and more in a broad band extending right across Europe, from Russia to the south-west of our Islands and the north of Spain; lowest, 28·8 ins. and less, in a large and deep depression lying off the north-west of Norway; low, 29·9 ins. and less, in a shallow disturbance lying over the central parts of the Mediterranean. Gradients steep over northern and north-western Europe. Norwegian depression subsequently travelling away to eastern Lapland and barometer rising briskly in Norway and the north of our Islands.

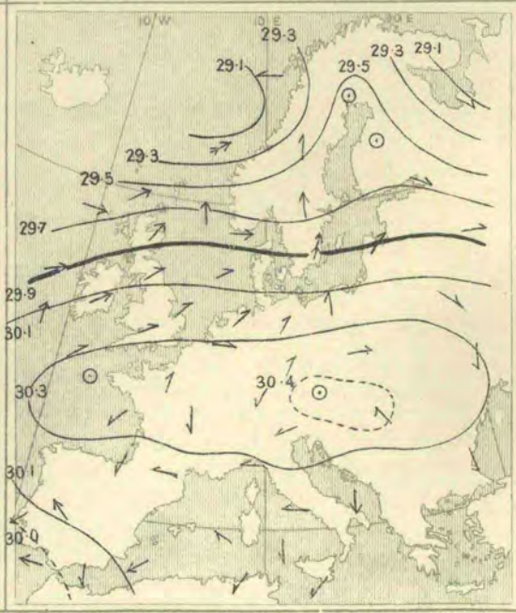
Wednesday, 12th March.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine over the eastern parts of Great Britain, as well as over Sweden, the Baltic, Italy, and the Mediterranean; cloudy or overcast elsewhere, with rain in the Shetlands and snow at several of the Russian stations, as well as at Bodö. Rain falling later in the extreme west and north of our Islands, but weather remaining very fine in the east. No important change taking place at the Continental stations.

Temperature highest, 50° and upwards, over Ireland and the northern parts of Great Britain, as well as at the Mediterranean stations, the highest readings of all being 55° at San Fernando, Cagliari, and La Calle, and 54° at Nairn, Shields, Brindisi, and Oran. Lowest, 18° at Haparanda, 25° at Uleaborg and Archangel, 24° at Moscow, 26° at Kiev, 29° at Kharkov, and 30° at Bodö; below 40° over northern and eastern Europe generally. Subsequently rising to 60° at York, Cambridge, and in London, 61° at Loughborough, and 63° at Aberdeen. Thermometer also exceeding 60° in most parts of southern Europe, the highest readings of all being 72° at Cape Spartel and 64° at Lisbon and Nemours.

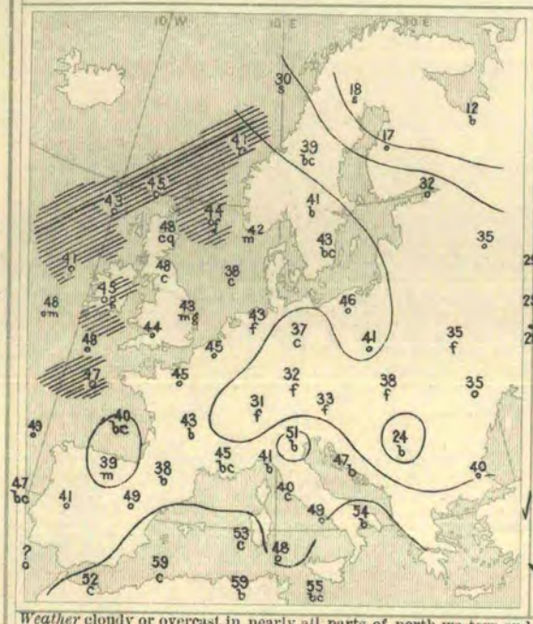
Wind South-Westerly or Westerly over our Islands, Denmark, the Netherlands, the Baltic, and central Russia; strong in force in the west and north of our Islands, with a gale in the Hebrides; strong to a gale from the Westward or North-westward over Sweden and the Gulf of Finland; light to moderate from the Northward or North-Eastward over the greater part of southern Europe; variable in Algeria. Subsequently increasing to a strong gale from the North-Westward at Wick; wind in Sweden backing to the Southward and continuing to blow with the force of a gale.

Barometer highest, 30·3 ins. to 30·5 ins., in a long and broad anti-cyclonic band extending from the north of Spain, the Bay of Biscay, and the south-west of our Islands, across France and central Europe to the south of Russia; lowest, 28·8 ins. and less, in a depression lying over the White Sea and its neighbourhood, 29·4 ins. and less in another disturbance lying to the northward of the Shetlands. Gradients rather steep in most parts of northern and north-western Europe. Both depressions moving eastward later, but new disturbance beginning to show itself off our extreme western coasts.

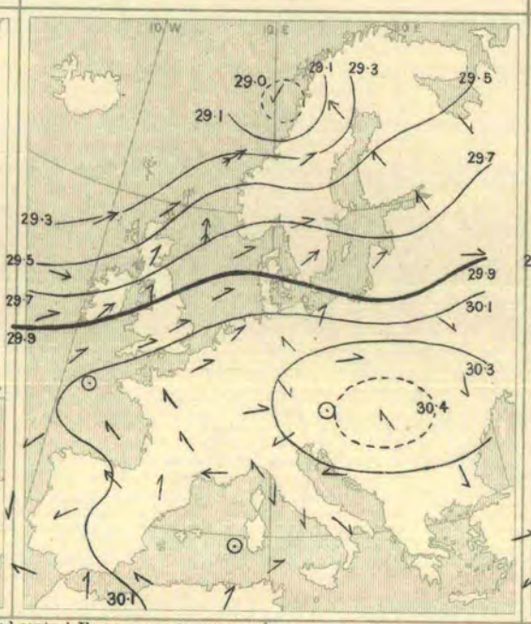
Judd & Co Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

Thursday, 13th March.

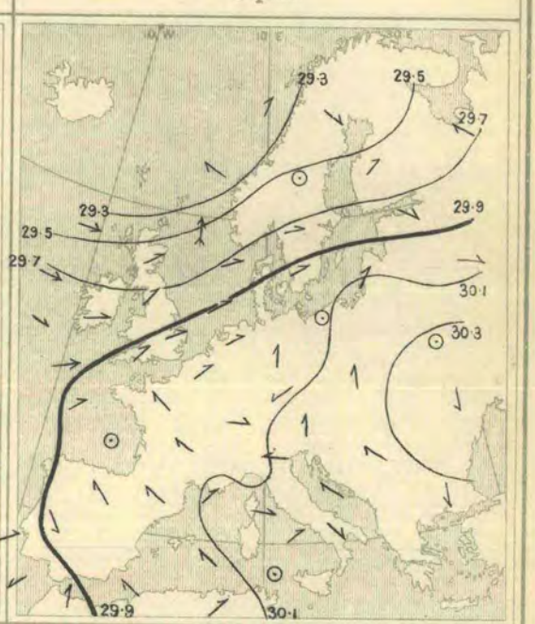
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy or overcast in nearly all parts of north-western and central Europe, as well as in the north of Scandinavia, with mist or fog in many places, rain at some of the Irish stations, and snow in Lapland. Fine at many of the Swedish and Russian stations, as well as over the whole of southern Europe and the Mediterranean. Sky clearing later in many parts of Ireland and Scotland, but slight rain falling in the west and south-west of England and heavy rain in western Algeria and the extreme south of Spain; largest amounts, 1·1 in. at San Fernando and 0·9 in. at Oran.

Temperature highest, 50° to 60°, over the central and southern parts of the Mediterranean (Algiers and La Calle 59°, Malta 55°, Brindisi 54°, Cagliari, Nemours, and Sfax 53°); high, 45° to 50°, over the western and northern parts of the United Kingdom. Lowest, 12° at Archangel, 16° at Uleaborg, 17° at Kuopio, 18° at Haparanda, 24° at Hermanstadt, and 30° at Bodö; slight frost prevailing at some of the German stations. Daily maxima reaching 55° in the north of England, but below 50° over our south-eastern and southern counties. Thermometer rising to 60° and upwards in many parts of southern Europe.

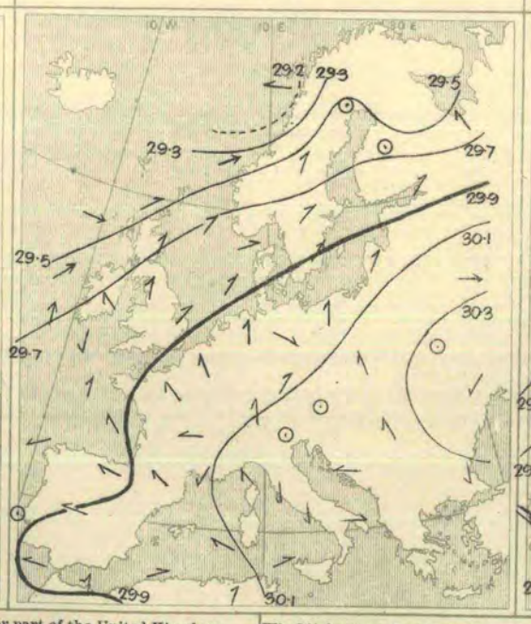
Wind South-Westerly in most parts of north-western and northern Europe, but South-Easterly in Lapland; gales reported in the west of Norway and strong winds on the north-west coasts of our Islands; light or moderate from the South-Eastward or Eastward over France and from the North-Eastward in Spain, but variable over Italy and the greater part of central and southern Europe. Subsequently veering to the Westward in the west and north of our Islands; no important change occurring elsewhere.

Barometer highest, 30·4 ins. and upwards, over the south of Austria, 30·2 ins. and upwards in a large anti-cyclone covering the greater part of central and eastern Europe and extending southwards over Italy; lowest, 29·0 ins. and less, in a depression lying over the north of Norway; low, 29·3 ins. and less, in another disturbance lying off the north of Scotland. Both disturbances moving eastwards later, and barometer rising on our extreme western and northern coasts.

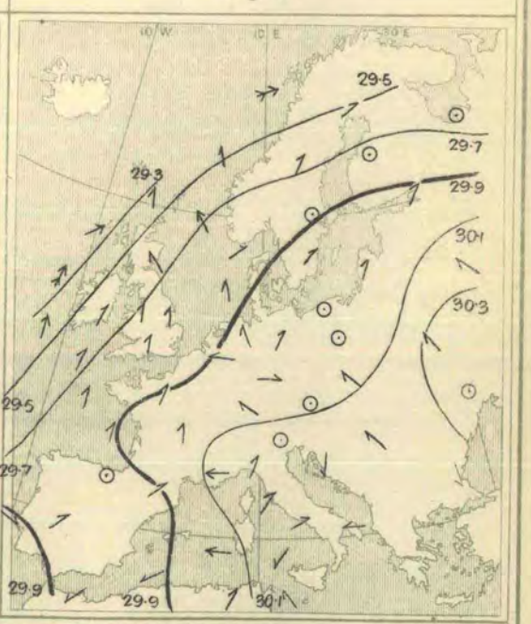
Friday, 14th March.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather varying much in different localities; fair over the greater part of the United Kingdom, as well as in Austria and the southern parts of Spain and Italy, but rainy in the Hebrides; dull in most other countries, with fog in some parts of central and southern Europe, rain at some of the southern French stations, and snow at Archangel and Haparanda. Rain falling later in the west of Ireland, heavy falls over the western and south-western shores of the Mediterranean.

Temperature highest, 50° and upwards, at the Mediterranean stations (La Calle 59°, Algiers 58°, Cagliari 57°, Nemours 56°, and Brindisi and Oran 54°); lowest, 18° at Haparanda, 19° at Uleaborg, 20° at Archangel, 29° at Hermanstadt, 32° at Bodö and Prague, and 38° at Kuopio, Cracow, and Nicolaieff. Rising during day to 55° and upwards over the central parts of Great Britain, the highest reading being 58° in London; exceeding 60° over most parts of southern Europe, and exceeding 70° in some parts of Algeria.

Wind light from the South-Eastward in France and from the Southward over the greater part of England; fresh from Southward on our extreme western coasts, moderate from the South-Westward over the North Sea, the southern half of Scandinavia, Denmark, and the Baltic; variable over Italy, Austria, and the south of Russia; light from the Eastward in Spain, Southerly in Algeria. Subsequently increasing to a severe gale from the Southward on the north-western coasts of Ireland, and to a moderate gale on our western and northern coasts generally; not much change elsewhere.

Barometer highest, 30·3 ins. and upwards, in a large anti-cyclone lying over the south of Russia, 30·2 ins. and upwards in a small area lying over the south of Italy; lowest, 29·2 ins. and less, in a depression lying off the north-west of Norway. Large disturbances subsequently approaching the western coasts of our Islands and moving north-eastwards; barometer falling briskly at all our western stations, less decidedly elsewhere.

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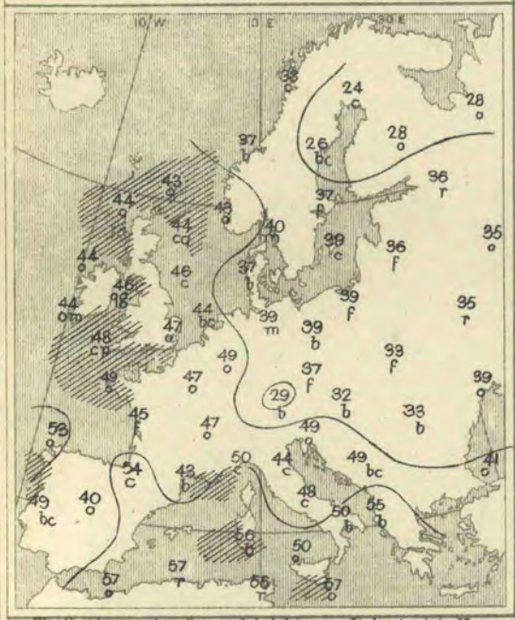
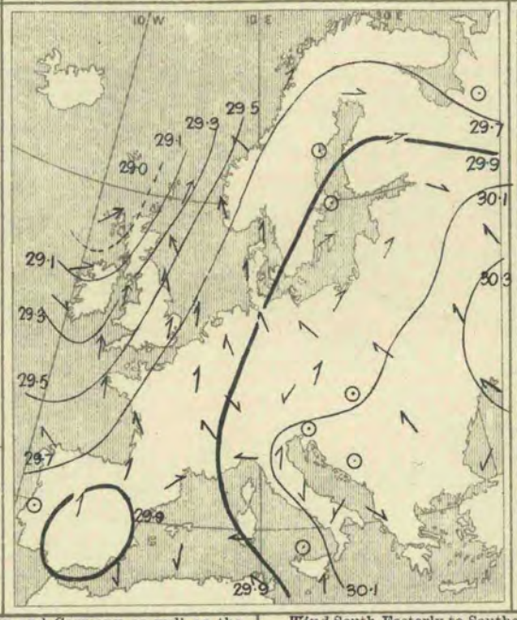
Saturday, 15th March.

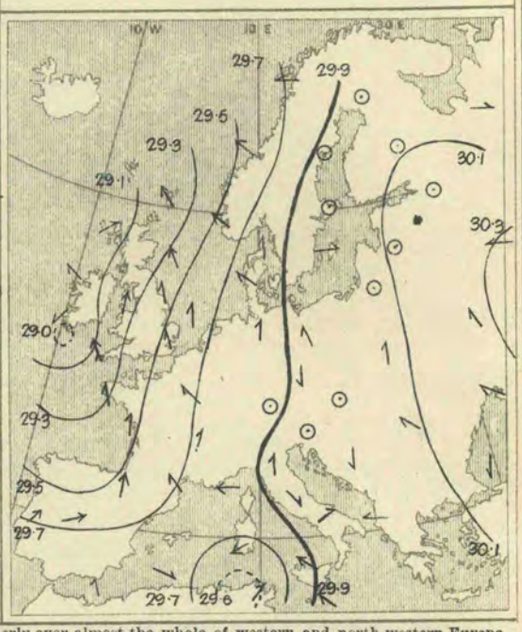
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over Italy, Austria-Hungary, and Germany, as well as the extreme east of England, Denmark, and the Baltic, where fog prevailed in several localities; cloudy or overcast elsewhere, with rain at several of our western stations, in France, and some parts of Russia. Heavy rain in several parts of Ireland and the Iberian Peninsula later, and very heavy falls at several of the Mediterranean stations—notably at Cagliari, where the fall amounted to nearly 3 ins.

Temperature risen over western Europe, changed irregularly elsewhere. Morning readings exceeding 50° at most of the Mediterranean stations and in the north of Spain (58° at Bilbao); ranging between 40° and 50° over the British Islands and France, but below 40° over central and eastern Europe, and as low as 24° at Haparanda, 26° at Hernösand, 28° at Kuopio, 29° at Munich, and 32° at Vienna and Warsaw. Rising to between 50° and 55° over Great Britain later, to 60° and more in several parts of France and Italy, and to 68° at La Calle (Algeria).

Wind South-Easterly to Southerly over almost the whole of western and north-western Europe, moderate to strong in force, and squally; very light and variable over northern, eastern, and central Europe, fresh to strong from the Eastward on the northern shores of the Mediterranean. Veering to Westward in the extreme west of Ireland during the day, and falling light and variable.

Barometer highest, 30·0 ins. to nearly 30·5 ins., over south-eastern Europe and the south of Russia, 29·9 ins. and more over the south-eastern half of Spain; lowest, 29·0 ins. and less, off the north-west of Scotland, and 29·1 ins. to 29·2 ins. in a "V"-shaped secondary lying over Ireland. A very small depression forming off the south of Ireland. The "V"-shaped disturbance moving eastwards later, and the small secondary in the south-west undergoing slight alterations and finally advancing eastwards towards the Bristol Channel.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this week barometric pressure was high in two well-marked systems—one lying over Russia, the other over the Atlantic adjacent to the coasts of western Europe—while low pressure areas travelled in an easterly direction both over northern Europe and the southern parts of the Mediterranean. The winds consequently varied from Southward to Westward and Northward over the more northern regions, while they were South-Easterly to North-Easterly in the south, and in most places were strong in force and accompanied by changeable unsettled weather.

The eastern high-pressure system soon gave way, while the western one moved eastwards, and by the 11th (when the maximum readings exceeded 30·5 ins.) had become the dominant system of western and central Europe. Depressions still appeared over the northern parts of the Continent, causing Westerly breezes of considerable strength over all the northern countries, but those in the south disappeared.

The high-pressure system now moved southwards and eastwards, the barometer fell decidedly, especially at the north-western and western stations, and at the close of the week decided gradients for Southerly winds had become prevalent except over Russia, and "V"-shaped disturbances with rainy weather began to appear in the west of our Islands and over the Bay of Biscay.

Temperature has, as a rule, been above the average over western and north-western Europe, and on the 12th the daily maxima were as high as 60° to 63° in many parts of Great Britain.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of each Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
March 1st - - - -	Dungeness - - - -	—	—	—	—	—	—	—	—	—	—	—	23·7	32

Judd & Co Lt. Lith. 73 & 75, Farringdon Rd & Doctors' Commons

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 12.] *Third Series.* WEEK ENDING SATURDAY, 22ND MARCH, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 68.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	57	28	46·7	34·6	40·5	1 above.	13	+ 4	28	− 4	117	+28	328	− 51
	1. SCOTLAND, EAST	60	28	46·7	35·3	40·8	1 above.	13	− 3	25	− 6	147	+16	370	− 57
	2. ENGLAND, N.E.	59	28	47·0	36·8	41·8	1 above.	14	− 2	21	− 6	141	+ 3	307	− 77
	3. ENGLAND, EAST	62	27	49·7	36·1	42·7	1 above.	30	+ 7	17	−11	166	−13	383	− 17
	4. MIDLAND COUNTIES	59	25	50·3	34·7	42·3	1 above.	33	+ 7	20	− 7	191	− 2	376	− 16
	5. ENGLAND, SOUTH	59	29	49·9	36·9	43·2	0 (average).	30	+ 2	14	− 7	215	+ 6	271	− 34
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	56	28	48·1	35·8	41·8	1 above.	17	+ 1	25	+ 3	161	+14	260	− 52
	7. ENGLAND, N.W.	58	32	48·8	37·2	42·8	1 above.	26	+ 8	13	− 7	163	+14	255	− 51
	8. ENGLAND, S.W.	54	25	49·4	36·8	43·0	1 below.	29	+ 3	15	+ 1	247	− 9	217	+ 32
	9. IRELAND, NORTH	54	24	48·4	33·7	40·9	2 below.	18	− 3	32	+12	187	−10	256	− 18
	10. IRELAND, SOUTH	62	27	49·8	33·8	41·6	3 below.	22	− 7	33	+19	275	−10	200	+ 15
	— CHANNEL ISLANDS	55	36	50·5	41·9	46·1	1 above.	29	0	0	− 5	352	+56	71	− 13

Rainfall.

	DISTRICTS. (See p. 68.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	11	5 more.	62	+ 3	14·6	0·0
	1. SCOTLAND, EAST	5	8	4 more.	49	+ 6	7·7	+ 0·8
	2. ENGLAND, N.E.	5	8	4 more.	43	+ 1	4·5	− 0·6
	3. ENGLAND, EAST	5	14	11 more.	48	+ 5	5·3	+ 0·4
	4. MIDLAND COUNTIES	4	4	0 (average).	42	+ 1	4·8	− 1·3
	5. ENGLAND, SOUTH	5	6	2 more.	42	+ 1	5·3	− 1·0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	5	7	1 less.	54	+ 2	12·8	− 1·4
	7. ENGLAND, N.W.	4	6	1 more.	50	+ 4	7·3	− 0·2
	8. ENGLAND, S.W.	5	6	1 less.	48	+ 1	8·3	− 2·2
	9. IRELAND, NORTH	4	3	2 less.	56	+ 1	8·0	+ 0·1
	10. IRELAND, SOUTH	4	9	2 more.	53	+ 1	11·5	+ 1·7
	— CHANNEL ISLANDS	3	2	4 less.	50	− 2	7·6	− 0·5

Bright Sunshine.

	DISTRICTS. (See p. 68.)	For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	17	21	124	−34	17	− 4
	1. SCOTLAND, EAST	14	17	166	−58	22	− 7
	2. ENGLAND, N.E.	18	21	163	− 4	21	0
	3. ENGLAND, EAST	26	31	222	+11	28	+ 2
	4. MIDLAND COUNTIES	23	27	189	− 4	24	0
	5. ENGLAND, SOUTH	26	30	205	+ 7	25	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	25	30	154	−10	20	− 1
	7. ENGLAND, N.W.	22	27	172	+ 7	22	+ 1
	8. ENGLAND, S.W.	30	36	228	+ 4	28	+ 1
	9. IRELAND, NORTH	34	41	182	− 4	23	− 1
	10. IRELAND, SOUTH	34	41	217	+ 2	27	0
	— CHANNEL ISLANDS	36	43	286	+ 4	35	+ 1

General Remarks.

Weather was dull and changeable, with rain almost daily, in most parts of Great Britain, but in Ireland and the Channel Islands rain was less frequent and several bright intervals were experienced.

Temperature has continued slightly above the mean in nearly all parts of England and Scotland; in Ireland and the south-west of England, however, it has varied from 1° to 3° below the normal value. The highest of the maxima were registered in most cases on the 18th, and ranged from 54° in "England S.W." and "Ireland N." to 60° in "Scotland E." and 62° in "England E." and "Ireland S." The lowest of the minima, which were recorded on irregular dates, over Ireland and Scotland, and on the 18th at most of the English stations, ranged from 24° in "Ireland N." and 25° in "England S.W." and the "Midland Counties" to 32° in "England N.W." and 36° in the "Channel Islands."

Rainfall has been more than the mean in the north and east of Scotland, in the south of Ireland, and over the major part of England, but less in the Channel Islands, "Ireland N.," "England S.W.," and "Scotland W." In "England E." the excess has been very large, owing to heavy falls which occurred on Wednesday.

Bright Sunshine has been more prevalent in Ireland than it was last week; elsewhere the values do not differ materially from those which were then recorded. The percentage of the possible duration ranged from 17 in "Scotland E." to 31 in "England E.," 36 in "England S.W.," 41 in Ireland, and 43 in the "Channel Islands."

Barometer and Wind.—At the commencement of the period a "V"-shaped depression was passing north-eastwards over our Islands, accompanied by Northerly or North-Westerly winds in the west and Southerly or South-Easterly winds in the east and north. As this system disappeared the distribution of pressure over our Islands and their neighbourhood became very complex, but no well-defined disturbance came directly over us until the 20th, when a system moved north-westwards over our more eastern and northern districts and passed to the westward of Scotland. The wind increased very considerably from the North-ward on our east coasts as this depression advanced and blew freshly from the North-West-ward in the south. At the end of the week moderate gradients for Westerly to South-Westerly winds had become established.

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36 350 3|90 607

III.—DATA from which the SUMMARY on page 67 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℑ	48	35	44·9	38·6	41·7	+2·7	8	14	6	1·85	+1·20	*	*
	Stornoway ℑ	49	32	46·6	33·3	39·8	—0·6	13	33	7	1·03	+0·16	19·9	24
	Wick ℑ	49	35	45·4	37·9	41·5	+2·4	10	16	5	1·06	+0·63	*	*
	Lairg ℑ	56	29	47·6	32·1	39·6	+0·8	16	37	5	0·66	—0·02	*	*
	Glencarron ℑ	57	28	47·6	32·9	40·0	+0·7	16	34	5	0·94†	—0·36	?	?
	Fort Augustus ℑ	56	28	47·8	32·8	40·1	+0·4	16	35	5	0·81†	?	14·3	17
1. SCOTLAND, E.	Nairn ℑ	58	29	48·1	33·4	40·5	+0·2	17	33	3	0·81	+0·42	*	*
	Aberdeen ℑ	49	32	45·0	38·1	41·5	+2·2	8	15	5	1·41	+0·90	17·0	20
	Braemar ℑ	51	28	45·1	33·0	38·9	+2·3	9	33	3	0·84	+0·24	11·8‡	14‡
	Ochtertyre ℑ	53	29	48·7	34·9	41·6	+2·1	21	28	4	0·45	—0·18	*	*
	Leith ℑ	60	33	49·4	36·7	42·9	+1·5	29	15	5	0·61	+0·30	*	*
	Marchmont ℑ	49	28	43·9	35·4	39·5	+0·2	5	23	7	0·92	+0·40	13·0	16
2 ENGLAND, N.E.	Alnwick Castle	48	30	44·7	37·1	40·8	+0·8	8	18	5	1·00	+0·51	*	*
	Durham	59	28	48·2	34·6	41·2	+1·4	17	29		0·83	+0·35	16·6	20
	Shields	50	32	46·7	36·9	41·7	+1·2	13	20	5	0·65	+0·30	*	*
	Scarborough ℳ	52	33	46·4	36·8	41·5	+1·0	12	21	5	1·00	+0·60	19·6‡	23‡
	York	58	32	49·9	36·4	43·0	+1·7	31	16	5	0·57	+0·19	17·2	20
	Spurn Head	50	37	46·1	39·0	42·5	—1·7	16	8	4	0·88	?	*	*
3. ENGLAND, E.	Hillington ℳ	59	33	49·5	36·3	42·7	+2·1	29	16	4	1·79	+1·46	22·7	27
	Yarmouth	51	37	46·1	38·9	42·4	+1·0	16	9	5	0·98	+0·58	*	*
	Geldeston	57	27	50·1	36·9	43·3	+1·5	31	14	4	1·38	+1·03	27·0	32
	Cambridge	62	30	52·6	34·6	43·3	+1·5	40	21	4	1·56	+1·26	29·1	35
	Rothamsted	56	29	49·9	34·5	42·0	+0·5	22	21	6	1·58	+1·21	*	*
	Ingatestone	57	31	49·9	35·6	42·5	+0·5	30	18	5	1·10	+0·80	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	58	25	50·1	34·1	41·9	+0·6	23	32	3	0·80	+0·45	17·5‡	21‡
	Loughborough	59	30	51·3	35·6	43·3	+1·9	36	18	6	0·56	+0·23	25·3‡	30‡
	Cheadle ℳ	54	30	48·6	34·1	41·1	+0·9	18	31	4	0·15	—0·35	*	*
	Churchstoke ℳ	52	29	48·9	33·0	40·7	—0·1	19	35	4	0·38	—0·04	27·3	33
	Hereford ℳ	56	31	52·6	35·2	43·6	+1·3	40	19	4	0·19	—0·19	*	*
	Cirencester	54	27	49·7	34·7	42·0	+0·2	22	20	3	0·27	—0·20	22·5	27
	Oxford	55	31	50·6	36·4	43·3	+1·1	33	16	5	0·23	—0·12	20·7	25
5. ENGLAND, S.	London	59	33	51·3	36·4	43·6	+0·8	35	16	6	0·71	+0·39	16·4‡	20‡
	Strathfield Turgiss ℳ	55	29	51·7	35·1	43·2	+0·4	37	19	7	0·35	+0·03	*	*
	Dungeness	51	33	47·4	38·1	42·6	—1·3	21	11	5	0·76	+0·34	26·0‡	31‡
	Hastings (St. Leonards)	52	33	48·1	37·1	42·4	—0·5	23	14	6	1·17	+0·75	28·0	33
	Southampton	56	31	52·5	37·1	44·6	+1·1	39	14	5	0·28	—0·16	28·7	34
	Hurst Castle	52	33	49·4	38·7	43·9	—0·1	27	9	2	0·13	—0·27	*	*
	Stowell ℳ	51	30	49·2	35·8	42·3	0·0	28	17	2	0·45	?	28·6‡	34‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	51	28	47·0	33·8	40·2	—0·5	14	31	6	1·27†	—0·25	*	*
	Glasgow	56	34	48·5	37·4	42·8	+2·0	25	13	5	0·48	—0·09	11·0	13
	Ardrossan	51	34	47·7	38·0	42·7	+1·8	22	11	5	0·44	—0.13	*	*
	Glenlee ℑ	53	28	48·9	31·7	40·1	—0·5	19	39	4	0·50	—0·37	*	*
	Douglas (Isle of Man)	50	34	48·2	38·0	43·0	+0·5	24	11	4	0·59	—0·04	38·4	46
7. ENGLAND, N.W.	Newton Reigny	58	32	47·1	34·2	40·5	0·0	14	30	4	0·48	—0·01	18·7	22
	Stonyhurst	56	33	48·0	36·1	41·9	+0·5	17	24	5	0·53	—0·22	20·1	24
	Blackpool ℳ	58	32	49·8	35·7	42·5	—0·4	30	18	3	0·76	+0·28	19·9	24
	Manchester	58	34	50·7	37·4	43·9	+2·3	33	13	6	0·57	+0·04	*	*
	Liverpool Obsy. (Bidston)	55	33	48·0	38·1	42·9	+0·4	23	11	4	0·65	+0·27	*	*
	Llandudno ℳ	56	35	49·2	38·8	43·9	+0·2	27	9	3	0·47	+0·02	30·3	36
	Holyhead	52	37	48·7	40·0	44·2	+0·2	24	6	3	0·68	+0·19	*	*
8. ENGLAND, S.W.	Llandovery	54	30	51·4	34·4	42·7	—0·1	37	21	5	0·97	+0·25	*	*
	Pembroke	49	37	47·0	40·9	43·9	—0·9	18	3	5	0·48	—0·04	25·3	30
	Arlington (N. Devon)	52	28	48·9	35·1	41·8	—0·9	19	28	6	0·68	—0·05	*	*
	Cullompton ℳ	54	25	51·1	34·1	42·4	—0·9	36	22	5	0·55	+0·01	28·8	34
	Falmouth	52	34	48·7	37·4	42·9	—2·2	26	13	4	0·31	—0·44	33·4	40
	Plymouth	53	33	50·4	37·3	43·7	—1·2	32	13	3	0·62	+0·07	31·7	38
	Prawle Point	51	35	48·3	38·7	43·4	—0·7	24	9	5	0·40	?	*	*
9. IRELAND, N.	Malin Head	50	28	46·4	36·1	41·1	—0·6	12	23	4	0·23	?	*	*
	Londonderry	54	31	51·0	35·0	42·8	+1·0	35	20	4	0·22	—0·40	*	*
	Mullaghmore	51	33	47·3	36·4	41·7	—1·2	15	22	4	0·29	—0·36	*	*
	Belmullet	51	34	47·4	36·1	41·6	—3·6	15	23	7	0·66	?	*	*
	Markree Castle	53	24	48·4	29·5	38·7	—3·9	18	46	4	0·22	—0·33	25·5	30
	Brookeborough	52	25	48·8	30·1	39·2	—1·6	19	45	3	0·37	?	*	*
	Armagh	53	31	49·2	32·8	40·8	—1·5	20	36	4	0·28	—0·20	43·2	51
	Donaghadee	54	33	49·1	37·3	43·0	—0·4	27	13	4	0·30	—0·15	*	*
	Edgeworthstown	53	25	48·0	30·4	38·9	—2·1	17	43	5	0·42	—0·23	*	*
10. IRELAND, S.	Dublin	53	33	49·1	34·7	41·7	—1·8	20	29	4	0·55	+0·07	38·5	46
	Parsonstown	54	28	50·6	31·3	40·7	—2·0	24	42	3	0·55	+0·03	32·6	39
	Kilkenny	53	27	50·4	31·0	40·4	—2·2	24	42	2	0·42	—0·08	*	*
	Waterford	58	29	51·1	32·2	41·4	—3·0	25	39	3	0·52	—0·17	*	*
	Roche's Point	54	34	50·3	37·6	43·8	—1·0	31	12	4	0·55	—0·28	*	*
	Valencia	54	31	48·6	35·0	41·6	—4·3	18	28	6	2·22	+1·27	31·5	38
	Killarney	62	29	49·4	32·6	40·8	—3·7	21	37	5	1·30	?	*	*
	Foynes	52	33	48·5	35·9	42·0	—1·7	18	17	4	0·70	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ℑ	52	42	49·6	43·0	46·2	—0·5	29	0	4	0·26	—0·28	*	*
	Jersey	55	36	51·4	40·7	45·9	+2·0	33	4	1	0·08	—0·44	35·9	43

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℑ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

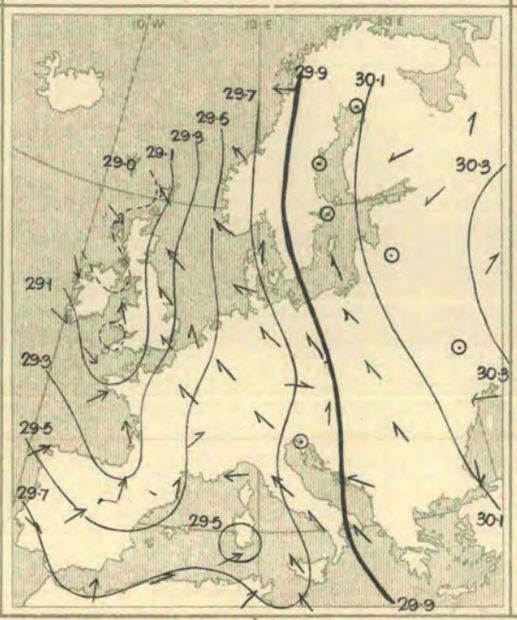
Sunday, 16th March.

Temperature and Weather.

8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.

Weather in morning fine in the Netherlands and over the eastern, midland, and north-western parts of England, and also in Portugal; cloudy or overcast and unsettled in most other places, squally and showery in Scotland and on several parts of our western coasts, foggy in many parts of Russia and Hungary. Rain later over the greater part of our Islands and in France—considerable in Scotland, Italy, and the south of France, heavy at Nice, but comparatively slight elsewhere—very slight in London.

Temperature falling on our western coasts, rising decidedly in Germany. Varying between 50° and 60° at the Mediterranean stations and between 50° and 56° in the north of Spain; below 50° in our Islands, and below 40° at some of the Irish stations and Stornoway, as well as over central, eastern, and northern Europe, but below the freezing point in the extreme north of Russia and in Hungary only. Lowest 18° at Archangel, 22° at Uleaborg, and 32° at Cracow. Rising later to between 59° and 62° in the south-east of England to between 50° and 63° in the south of France, to 61° at Munich, to 65° at Paris, and to 70° or more at Palermo and Algiers. Falling briskly over the British Isles later.

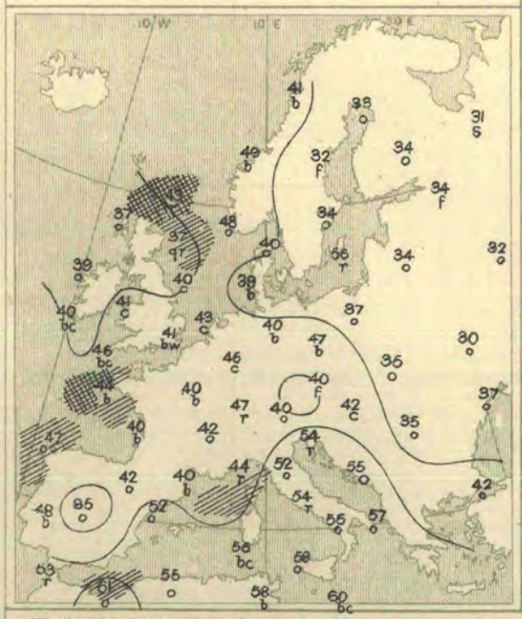
Wind currents very well defined; South-Easterly over Norway, Germany, the North Sea, nearly the whole of Great Britain, the English and Irish Channels, and the north of France, and moderate to strong in force; North-Westerly in the Hebrides and at most of the Irish stations and Scilly, moderate to fresh in force; Southerly to South-Westerly over the Bay of Biscay and Spain. An Easterly gale prevalent in the south of France, very light breezes over Russia. The North-Westerly wind in Ireland spreading Eastwards later, but not reaching our eastern stations.

Barometer highest, 30·0 ins. to about 30·4 ins., over Russia, 29·5 ins. to 29·7 ins. over Portugal and the west of Spain. Lowest, 28·9 ins. to 29·0 ins., in depressions off our north-west coasts, and 29·0 ins. to 29·3 ins. in a complex "V"-shaped secondary stretching southwards over the Irish Sea and south-west of England to the Bay of Biscay and north-east of Spain. Rising in the west, falling in the east during day, as the "V" moved slowly to the eastward.

Monday, 17th March.

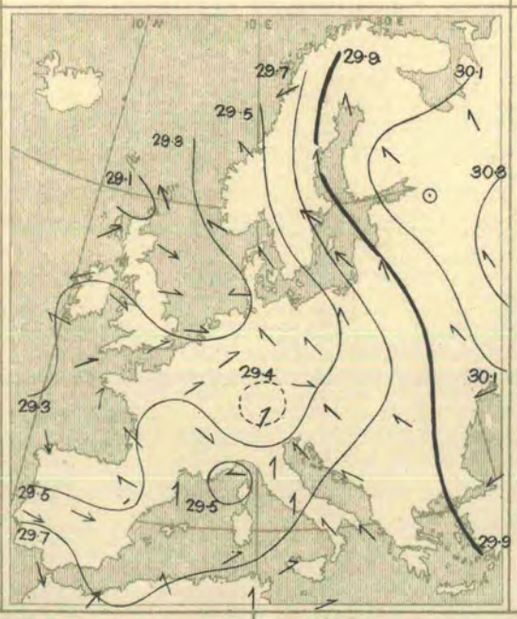
Temperature and Weather.

8 a.m.

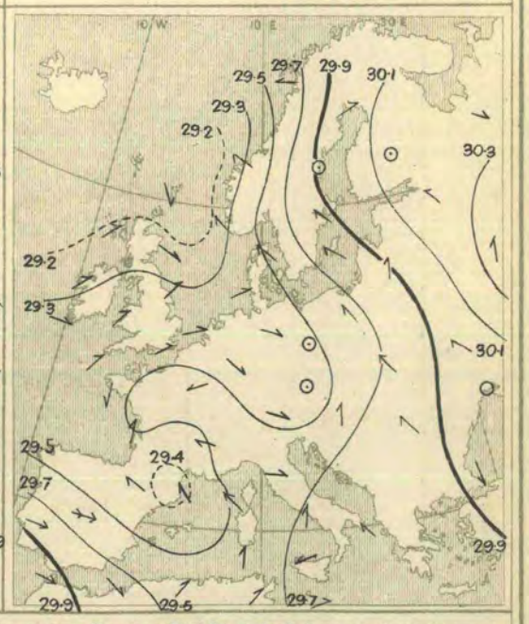


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Ireland, England, the west and north of France, and some parts of Norway and north Germany; cloudy or overcast elsewhere, unsettled in many places, with rain in Scotland, at several stations over southern Europe, and at some of the Baltic ports. Snow prevalent at Archangel, fog at St. Petersburg and Hernösand. Rainfall heavy in the Shetlands, at Valencia, and in the south-west and south of France later, as well as in Algeria and some parts of Italy; thunder and lightning at Biarritz; slight falls generally in the northern and western parts of the British Isles and France. Remaining fine over the greater part of England.

Temperature changing irregularly, but not greatly; morning readings exceeding 50° on the eastern, southern, and western shores of the Mediterranean only; below 40° in the north and north-west of the British Isles, eastern Prussia, Poland, Russia, and Sweden, but below the freezing point at Kiev and Archangel only. Rising subsequently to between 55° and 61° in many parts of France and to between 50° and 55° over England; daily maxima exceeding 70° in some parts of Algeria and at Palermo. Falling fast again as night came on.

Wind light from Eastward over southern Russia; still light to fresh from the South-Eastward over Austria, Germany, the Baltic, and eastern shores of the North Sea; variable (mainly from the Westward) over the United Kingdom and north of France. Very variable over central France and western Germany, Westerly to Southerly over the Mediterranean. Becoming South-Westerly in Ireland later and variable in the west of France; falling very light from Westward over England.

Barometer highest, 30·0 ins. to about 30·4 ins., over Russia, and 29·5 ins. to 29·8 ins. over the Mediterranean and Algeria. Lowest, about 29·1 ins., off the north of Scotland, and below 29·3 ins. in some shallow local depressions, of various form, lying over the North Sea and off our south-west coasts. Rising in our Islands later, most over England; falling over Norway, the Baltic, western Russia, and Austria.

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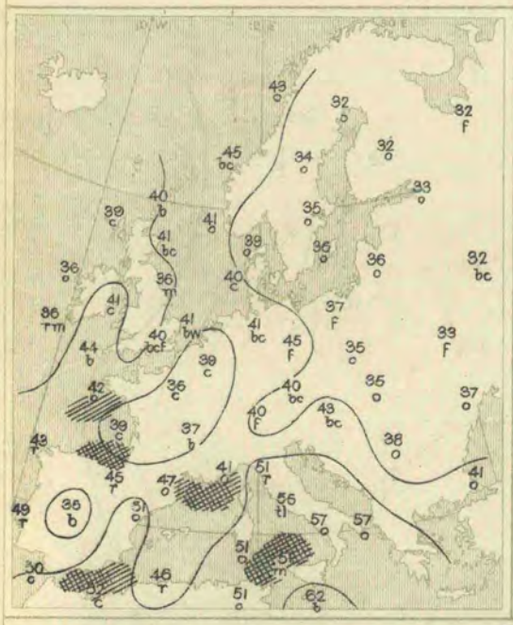
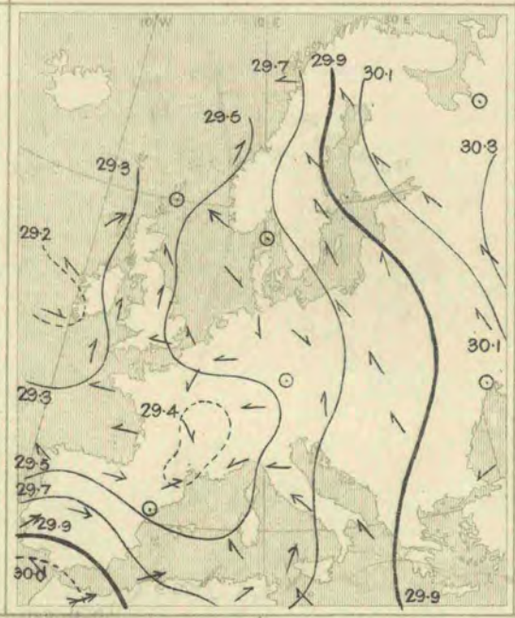
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 18th March.

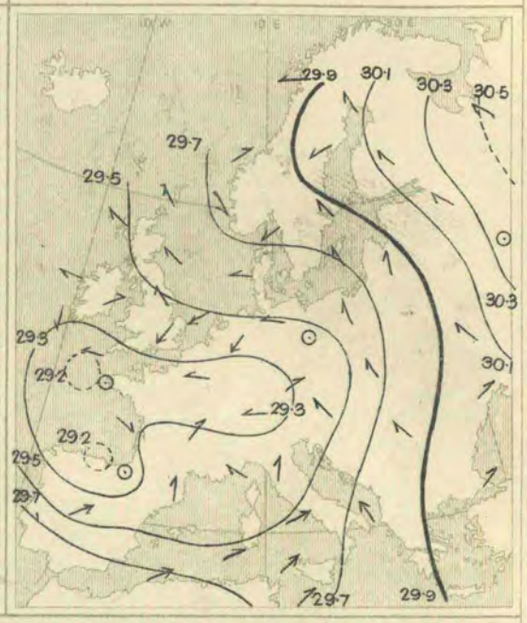
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in morning over the greater part of our Islands, at some isolated stations in France, and in the south of Russia; cloudy or overcast elsewhere; unsettled over western and southern Europe generally, with rain in many places; a solar halo seen in London. Showers later at several of our north-western and western stations, and slight rain setting in over the south and south-east of England. Much rain over the Mediterranean, thunder and lightning at Rome and Algiers, and weather very unsettled over central Europe generally.

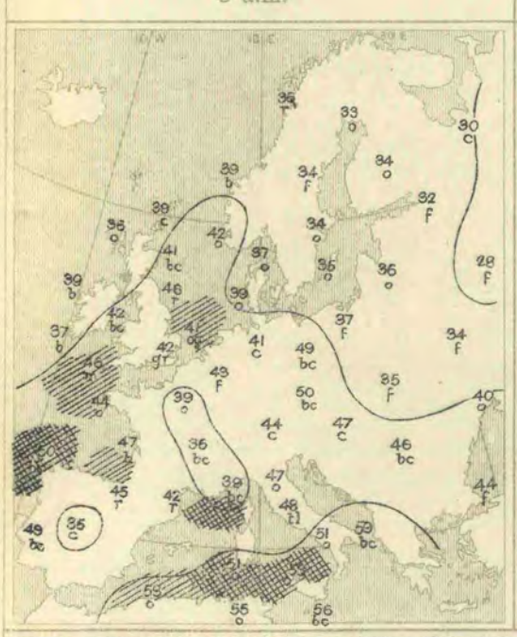
Temperature in morning exceeding 60° at Malta, and exceeding 50° on most of the eastern, southern, and western shores of the Mediterranean; below 40° in many parts of the British Isles, Spain, and France, and also over south-eastern and eastern Europe, and very uniformly about 32° over Finland and the northern and central parts of Russia. Remaining below 50° at most of the northern stations later, rising to between 50° and 57° over England and France and to between 60° and 68° over the southern and eastern shores of the Mediterranean.

Wind mainly Southerly and South-Easterly and moderate over the British Islands, northern and eastern Europe: Westerly over Spain, extremely variable elsewhere, and light. Backing to Eastward over Ireland and England later and freshening somewhat at the English stations.

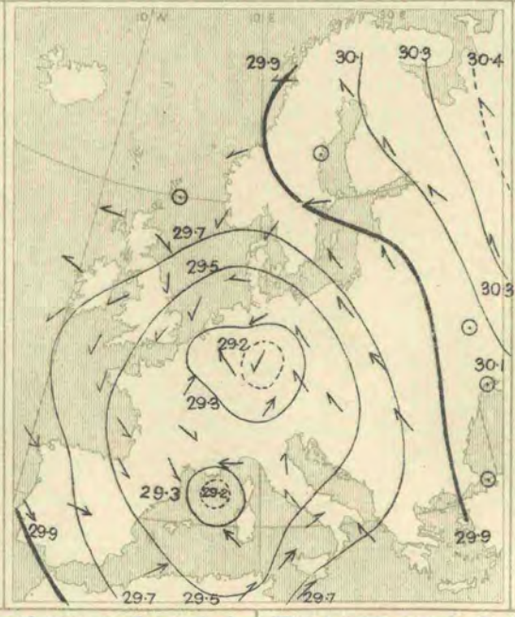
Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over Russia, 30·0 ins. and upwards in another system lying to the southward of Spain. Lowest, 29·2 ins. and less, in a shallow depression lying off the south-west of Ireland, 29·4 ins. and less in a complex disturbance lying over the south and east of France. Depression off south-west of Ireland subsequently travelling south-eastwards to the mouth of the Channel and filling up, and barometer rising at all our western stations. Other disturbances forming over the Mediterranean, France, and Germany.

Wednesday, 19th March.

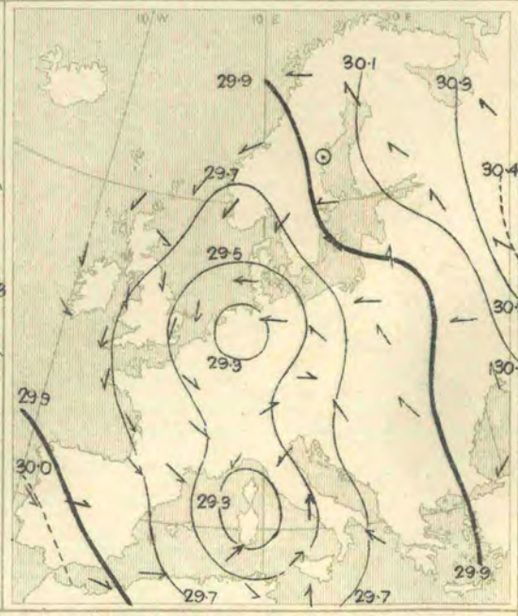
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Spain, the Bay of Biscay, the western and extreme northern parts of our Islands, and some parts of Norway: cloudy or overcast and unsettled elsewhere, very foggy in Russia, rainy in the south and south-west of France, and over the eastern and north-eastern counties of England. Rain becoming heavy later in the north-east of France and east of our Islands, with wet snow in several places, and rain spreading to Scotland; thunder and lightning occurring at Biarritz. Further falls of rain at several of the Mediterranean stations and large quantities over Italy and the Adriatic.

Temperature low, except over Germany and Austria: exceeding 50° over the southern and south-eastern parts of the Mediterranean only, ranging between 40° and 50° over Austria, Germany, and the eastern half of our Islands, below 40° over the greater part of Ireland, Scotland, northern and eastern Europe, and below the freezing point over the central and northern parts of Russia. Remaining below 50° over the greater part of our Islands during the day and below 50° in France and Algeria, but rising to 60° and more in several parts of Germany, Austria, and Italy.

Wind moderate from the Northward (North-East to North-West) over nearly the whole of western Europe, strong to a gale from Westward in Algeria, moderate from the South-Eastward over central Europe and the Baltic, light from the Eastward over Scandinavia, variable over Russia. Fresh Easterly winds prevalent in the south of France, strong South-Easterly in Sardinia, and Southerly in Sicily. Wind increasing in force over our eastern counties later, and backing towards North and North-West over the United Kingdom generally.

Barometer highest, 30·0 ins. to 30·4 ins. (and probably more), over Russia, 29·7 ins. to 29·9 ins. off the western coasts of Europe. Lowest, 29·2 ins. and less, in two depressions—the centre of one lying off Cape Sicié, the other near Wiesbaden—the two forming a complex low-pressure system covering western Germany, France, and the greater part of the Mediterranean. German depression advancing north-westwards towards England later, that off the south of France moving south-eastwards towards Italy.

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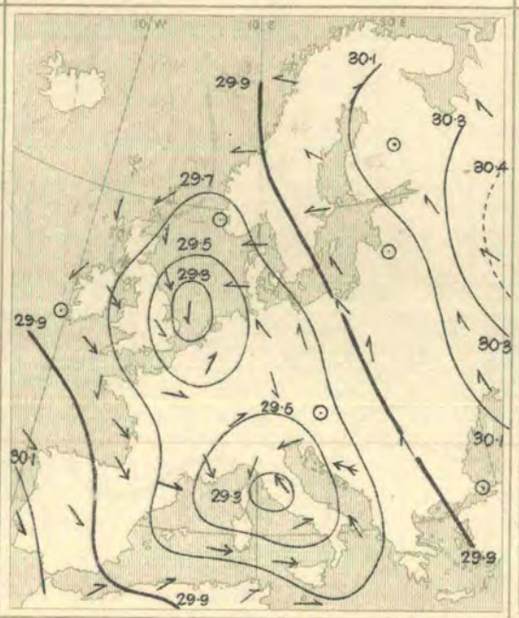
Thursday, 20th March.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine over the western parts of our Islands, Spain, and Algeria, fair, but foggy, locally in Hungary and southern Russia, changeable and unsettled elsewhere; rain and snow over the northern and eastern parts of Great Britain, Finland, and the north of Sweden, rain in Italy and the south-west of France, with thunder and lightning at Biarritz. Falls of rain considerable over the North Sea, the north-eastern parts of Great Britain later, and at Munich, Biarritz, and in some parts of Italy, slight at our own western and south-western stations.

Temperature ranging from 50° to 59° over the eastern, southern, and western shores of the Mediterranean only, below 50° over France and Germany, below 40° over the greater part of the British Islands and the Baltic, and below the freezing point over central and northern Russia. Lowest individual readings, 26° at Moscow and Archangel. Daily maxima below 50° at most British stations, below 60° over Germany and France, but above 60° in many parts of Italy and Algeria. Thermometer falling fast over England at night.

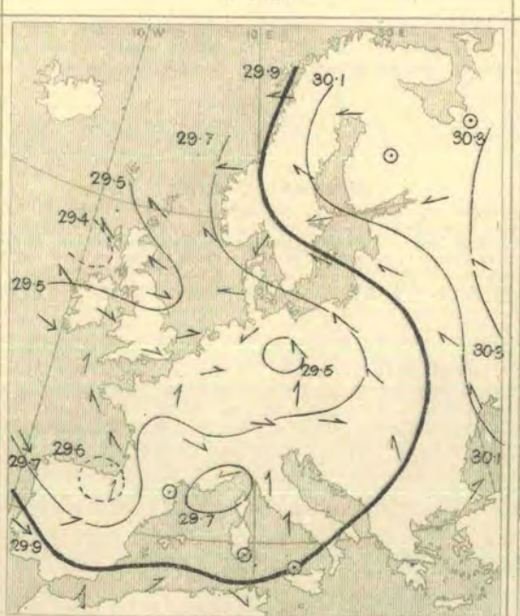
Wind Northerly and North-Westerly over the British Isles and strong at the English stations, North-Westerly to Westerly, and moderate, over France, Southerly to South-Easterly over Germany and the Baltic, Easterly over Scandinavia. Another cyclonic circulation prevalent over the Mediterranean and southern Europe. Becoming more Westerly in the south of England and more Easterly in Scotland towards night, while Southerly breezes appeared in the west of Ireland.

Barometer highest, 30·0 ins. to nearly 30·5 ins., over Russia, 29·8 ins. to 30·1 ins. over the Bay of Biscay, Spain, and Algeria. Lowest, 29·3 ins. and less, in two depressions, the centre of one being near Rome, the other off the coast of Norfolk. The latter depression moving north-westwards later, while a new disturbance, moving south-eastwards, appeared off our western coasts; the Italian system moving north-eastwards to Austria and filling up, but a new one forming over Gulf of Genoa.

Friday, 21st March.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine over the southern and south-western parts of Great Britain, the greater part of France, and the southern shores of the Mediterranean; cloudy or changeable elsewhere, with rain over Holstein, Scotland, the south-west of Ireland, and in some parts of Italy. Rain falling later in several parts of our Islands and France, but amounts not large; fine weather continuing in the south and west of England all day. Heavy falls of rain occurring at some of the Italian and Algerian stations, the largest amount being 0·7 ins. at Turin.

Temperature in morning exceeding 50° on the eastern, southern, and western shores of the Mediterranean, as well as on the Atlantic coasts of Spain, and as high as 48° at Valencia (Ireland), 47° at Scilly, 40° to 46° over north Germany. Below 40° in the north-eastern and central parts of England and Ireland, as well as over the Baltic and eastern Europe, but below the freezing point in some parts of Russia and the north of Sweden only. Rising later to between 50° and 60° over several parts of England and in France and Germany; maxima exceeding 65° at some of the Algerian stations, the highest reading of all being 70° at Nemours.

Wind mainly South-Easterly over Russia, Germany, and the North Sea, Easterly over northern Europe, very variable over western Europe and the Mediterranean, light to moderate generally. Becoming Westerly and South-Westerly over the United Kingdom later, except in the north of Scotland, where, however, the South-Easterly wind decreased in strength. Decided cyclonic circulation setting in over the western parts of the Mediterranean; Southerly wind blowing strongly at Cagliari.

Barometer highest, 30·0 ins. to 30·4 ins., over Russia, Finland, and the northern parts of Sweden, and 29·8 ins. to 30·0 ins. and more over the southern half of Spain and the southern shores of the Mediterranean; lower over the British Isles, the Bay of Biscay, France, and central Europe, and as low as 29·4 ins. off the west of Scotland, 29·5 ins. and less in a new small depression over Germany, 29·6 ins. and less in another near Biarritz, and 29·7 ins. and less in a fourth lying over the south of France and Gulf of Genoa. Rising over western and north-western Europe all day and some of the disturbances filling up.

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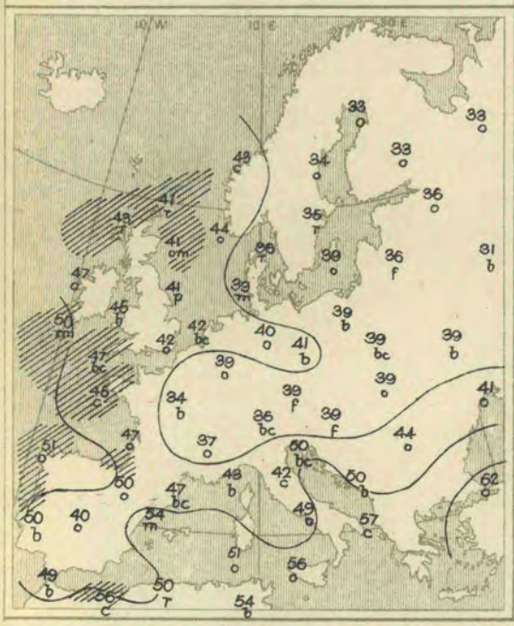
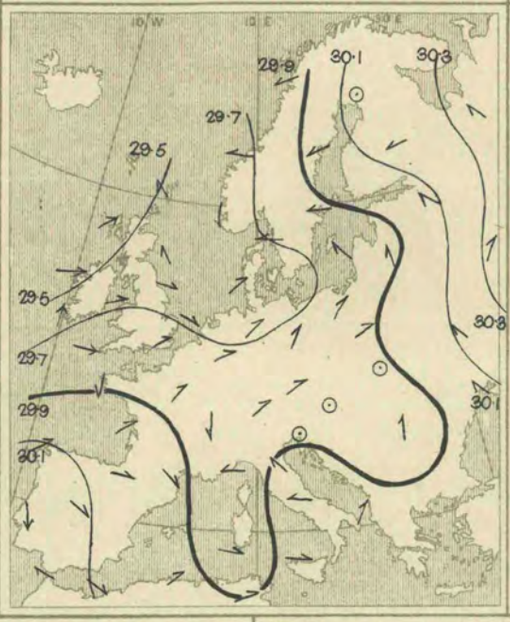
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 22nd March.

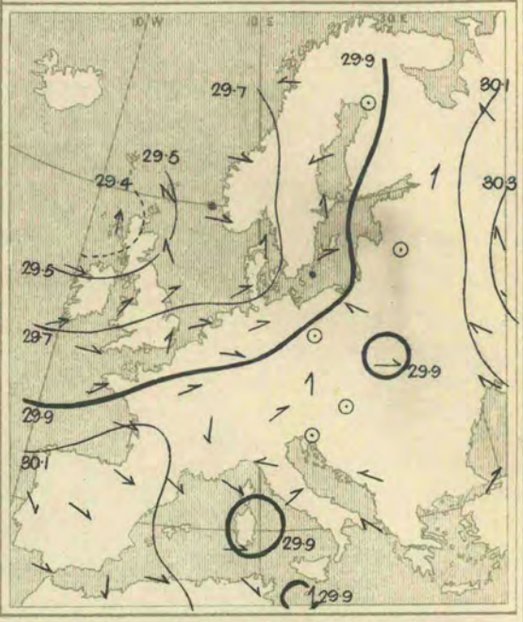
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair in most parts of Great Britain, as well as over France, Germany, the Baltic, central Russia, and the southern parts of France and Spain. Dull elsewhere, with rain in Ireland, the extreme north of Scotland, and the south of Scandinavia, and snow over the Gulf of Finland. Fog reported in some parts of central Europe. Showers falling during day over nearly the whole of western Europe and heavy rain (2·5 ins.) at Florence.

Temperature highest, 50° and upwards, at most of the Mediterranean stations, as well as in the western parts of the Iberian Peninsula and the extreme south-west of Ireland (Brindisi and Sfax 57°, Oran 56°, and Barcelona and La Calle 54°). Lowest, 31° at Moscow, 33° at Archangel, Haparanda, Uleaborg, Kuopio, and Helsingfors, and 34° at Hernösand, Hangö, and Paris; below 40° in most parts of northern and central Europe. Daily maxima varying between 50° and 55° over the greater part of our Islands and France, thermometer exceeding 60° in Algeria and the south of Italy.

Wind strong from the Southward or South-Westward in the extreme west and north-west of our Islands, light from the Westward over England, from the South-Westward over the Netherlands and central Europe, from the South-Eastward over Russia and the Baltic, and from the Eastward in Scandinavia; light or moderate from the Westward over Spain and Algeria, variable in Italy. Subsequently veering to the Westward in Ireland.

Barometer highest, 30·2 ins. and upwards, in Portugal; high, 30·0 ins. and upwards, in the north of Sweden. Lowest, 29·5 ins. and less, in a large depression lying to the north-westward of our Islands, 29·6 ins. and less in a trough stretching south-eastwards across the North Sea. Depression in north-west subsequently moving northwards and barometer rising on our extreme western coasts.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout this week barometric pressure has been high both over Russia and (apparently) over the Atlantic, to the westward of Spain and Cape de Verde. Between these two regions (i.e., over the British Islands and central Europe) readings have been low, and numerous depressions have been reported—most of them shallow and moving in very variable directions. One advanced north-westwards from Germany to Scotland and the adjacent parts of the Atlantic between the 19th and 21st, while another approached our western coasts, simultaneously, from the north-westward, and, travelling across the Bay of Biscay, disappeared near Bilbao. The wind, though principally Westerly and North-Westerly at the south-western stations and South-Easterly over Hungary, Russia, and northern Europe, has been very variable in our Islands, France, and Germany, and at times strong in force. The weather has been unsettled and showery, and temperature, though unsteady, has been rather high for the time of year. At the close of the week no important change was indicated.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 13.] *Third Series.* WEEK ENDING SATURDAY, 29TH MARCH, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 74.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	54	27	49·2	37·6	43·2	3 above.	27	+15	12	−18	144	+48	340	− 75
	1. SCOTLAND, EAST -	59	24	51·3	37·2	44·0	4 above.	34	+16	13	−15	181	+39	383	− 79
	2. ENGLAND, N.E. - -	62	37	53·0	41·7	47·2	6 above.	38	+20	1	−23	179	+32	308	−107
	3. ENGLAND, EAST -	64	35	55·6	41·4	48·2	6 above.	46	+20	2	−23	212	+15	385	− 50
	4. MIDLAND COUNTIES	64	32	54·2	40·8	47·3	5 above.	42	+14	3	−21	233	+18	379	− 47
	5. ENGLAND, SOUTH -	66	35	52·9	42·7	47·6	3 above.	39	+ 9	0	−18	254	+21	271	− 58
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	58	25	50·7	39·7	45·0	3 above.	31	+12	6	−13	192	+32	266	− 73
	7. ENGLAND, N.W. -	60	32	50·6	41·5	45·9	2 above.	29	+ 7	1	−17	192	+28	256	− 76
	8. ENGLAND, S.W. -	62	35	52·3	43·4	47·7	3 above.	40	+11	0	−13	287	+10	217	+ 13
	9. IRELAND, NORTH -	57	33	51·7	41·2	46·3	3 above.	33	+ 9	2	−15	220	+ 6	258	− 41
	10. IRELAND, SOUTH -	59	35	53·2	43·2	48·0	3 above.	42	+10	0	−13	317	+ 6	200	− 5
	— CHANNEL ISLANDS -	62	43	52·9	45·7	49·2	3 above.	50	+18	0	− 4	402	+79	71	− 18

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 74.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	5	7	1 less.	67	+ 4	15·3	− 0·8	28	33	152	−36	18	− 4
	1. SCOTLAND, EAST -	5	4	1 less.	54	+ 8	8·1	+ 0·2	30	35	196	−53	23	− 6
	2. ENGLAND, N.E. - -	5	8	3 more.	48	+ 3	5·3	− 0·6	20	23	183	− 9	21	− 1
	3. ENGLAND, EAST -	4	4	0 (average).	52	+ 6	5·7	+ 0·1	21	24	243	− 8	27	− 1
	4. MIDLAND COUNTIES-	4	5	1 more.	46	+ 2	5·3	− 1·6	17	19	206	−17	23	− 2
	5. ENGLAND, SOUTH -	4	5	1 more.	46	+ 3	5·8	− 1·3	16	18	222*	−13	25	− 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	6	8	1 more.	60	+ 5	13·6	− 1·8	20	23	174	−20	20	− 2
	7. ENGLAND, N.W. - -	6	12	7 more.	56	+ 8	8·5	0·0	16	18	188	− 3	22	0
	8. ENGLAND, S.W. - -	5	7	0 (average).	53	+ 2	9·0	− 2·8	28	32	256	+ 1	29	+ 1
	9. IRELAND, NORTH -	6	7	1 more.	62	+ 3	8·7	− 0·3	23	27	205	−12	24	− 1
	10. IRELAND, SOUTH -	6	12	5 more.	59	+ 4	12·7	+ 1·6	30	34	247	− 2	28	0
	— CHANNEL ISLANDS -	4	6	1 more.	54	− 3	8·2	− 0·9	25	28	311	− 7	34	0

General Remarks.

Weather during this period has varied considerably. The greater part of the week was cloudy or dull, with rain almost daily in the west and north, and frequently in the south and east; occasional fine bright intervals were experienced in all districts, and in most parts of England the conditions improved materially towards the end of the week, while in the Channel and on our south-western coasts thick fog prevailed.

Temperature has been above the mean in all districts, the excess having ranged from 3° in most parts of the Kingdom to 5° in the "Midland Counties" and 6° in the north-east and east of England. The highest of the maxima, which were recorded on the 27th at most of the Irish and Scotch stations and on the 28th over England, varied from 54° in "Scotland N." to 64° in "England E." and the "Midland Counties," and to 66° in "England S." The lowest of the minima were registered on the 24th, and ranged from 24° in "Scotland E" and 25° in "Scotland W." to 37° in "England N.E." and to 43° in the "Channel Islands."

Rainfall has exceeded the mean over Ireland, the "west of Scotland," and southern, central, and north-eastern England, as well as in the "Channel Islands," and has just equalled it in "England S.W." and "England E.;" elsewhere it has been rather less than the normal.

Bright Sunshine has been less prevalent, as a whole, than it was last week. The percentage of the possible amount varied from 18 in "England S." and "England N.W." to 34 in "Ireland S." and to 35 in "Scotland E."

Barometer and Wind.—The barometer has been highest in the south and south-east, while several depressions (mostly shallow and subsidiary to larger disturbances over the Atlantic) have passed over our Islands in an easterly and north-easterly direction. The winds have consequently varied in direction from South to West and North-West, and have generally been light or moderate in force, but on the 24th they blew freshly or strongly.

* This value has been altered owing to the receipt of further information.

For errata see p. 78.

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III.– DATA from which the SUMMARY on page 73 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	50	35	47·1	38·6	42·7	+2·9	19	10	5	0·64	+0·04	*	*
	Stornoway	53	36	50·0	39·3	44·5	+3·5	29	8	5	0·57	—0·23	40·7	47
	Wick	52	36	50·0	39·0	44·3	+4·4	29	8	3	0·16	—0·25	*	*
	Lairg 𝔖	54	27	49·7	34·0	41·6	+1·8	22	32	5	0·52	—0·09	*	*
	Glencarron 𝔖	51	32	48·5	37·2	42·7	+2·1	25	13	6	1·68†	+0·50	?	?
	Fort Augustus 𝔖	53	28	50·1	37·4	43·6	+2·7	31	13	5	0·80†	?	15·8	18
1. SCOTLAND, E.	Nairn	55	28	51·6	35·9	43·5	+2·5	36	17	6	0·23	—0·14	*	*
	Aberdeen	57	31	51·4	39·4	45·2	+5·3	33	7	4	0·07	—0·44	36·9	42
	Braemar 𝔖	51	24	47·4	34·2	40·6	+2·3	15	30	4	0·31	—0·29	28·0‡	32‡
	Ochtertyre 𝔖	59	29	53·4	36·9	44·9	+3·9	42	14	4	0·95	+0·36	*	*
	Leith 𝔖	57	31	52·4	39·9	46·0	+3·7	37	6	4	0·24	—0·08	*	*
	Marchmont 𝔖	56	30	51·7	36·6	43·9	+3·6	36	15	5	0·68	+0·16	26·3	30
2 ENGLAND, N.E.	Alnwick Castle	55	37	50·7	40·7	45·6	+4·6	31	4	5	1·05	+0·55	*	*
	Durham	62	38	54·0	40·5	47·1	+6·3	42	4	5	0·97	+0·48	23·	27
	Shields	60	39	52·9	41·1	46·8	+5·4	37	3	5	0·91	+0·53	*	*
	Scarborough 𝔐	58	39	53·0	42·9	47·8	+6·4	41	0	6	0·67	+0·26	20·1‡	23‡
	York	61	38	54·7	42·6	48·5	+6·2	46	0	5	0·58	+0·19	15·5	18
	Spurn Head	62	39	52·9	42·6	47·6	+5·7	39	0	3	0·41	?	*	*
3. ENGLAND, E.	Hillington 𝔐	62	36	55·6	42·0	48·6	+7·3	46	0	4	0·48	+0·13	18·0	21
	Yarmouth	59	39	54·6	42·4	48·3	+6·2	44	0	4	0·43	+0·03	*	*
	Geldeston	64	39	56·9	42·6	49·3	+6·5	51	0	4	0·35	0·00	26·1	30
	Cambridge	63	35	57·0	39·0	47·7	+4·9	53	8	3	0·26	—0·08	18·8	22
	Rothamsted	63	35	53·7	40·8	47·1	+4·8	41	3	3	0·50	+0·09	*	*
	Ingatestone												*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	63	37	54·0	42·6	48·1	+6·3	43	0	4	0·55	+0·18	17·0‡	20‡
	Loughborough	64	35	56·0	41·6	48·6	+6·3	48	1	4	0·50	+0·16	17·7‡	20‡
	Cheadle 𝔐	60	33	51·8	40·3	45·9	+4·4	34	5	5	0·74	+0·23	*	*
	Churchstoke 𝔐	60	34	52·5	40·0	46·1	+4·0	37	6	5	0·59	+0·19	20·7	24
	Hereford 𝔐	60	34	54·9	41·8	48·2	+4·8	44	1	4	0·50	+0·10	*	*
	Cirencester	59	32	54·6	39·0	46·6	+3·7	45	8	3	0·30	—0·19	16·0	18
	Oxford	63	36	55·3	40·6	47·7	+4·0	46	4	4	0·30	—0·07	13·0	15
5. ENGLAND, S.	London	66	36	56·1	43·1	49·4	+5·2	52	0	3	0·39	+0·03	13·1‡	15‡
	Strathfield Turgiss 𝔐	64	35	56·6	42·0	49·1	+5·5	50	0	3	0·45	+0·10	*	*
	Dungeness	52	40	49·3	43·3	46·2	+1·2	29	0	3	0·36	—0·05	16·9‡	19‡
	Hastings (St. Leonards)	55	38	51·1	42·7	46·8	+2·9	34	0	5	0·43	0·00	16·6	19
	Southampton	62	35	54·9	42·7	48·6	+3·9	46	0	5	0·58	+0·10	19·3	22
	Hurst Castle	53	43	50·3	44·7	47·4	+2·3	38	0	7	0·54	+0·12	*	*
	Stowell 𝔐	58	35	52·0	40·4	46·0	+2·9	35	4	3	0·68	?	14·1‡	16‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	38	52·9	40·3	46·4	+4·7	38	5	6	0·88†	—0·42	*	*
	Glasgow	55	35	50·4	40·8	45·5	+3·7	30	3	5§	0·44	—0·10	20·1	23
	Ardrossan	50	36	48·4	41·4	44·8	+2·7	22	2	5	0·21	—0·33	*	*
	Glenlee 𝔖	55	25	51·8	36·0	43·7	+1·8	37	17	6	0·99	+0·20	*	*
	Douglas (Isle of Man)	54	33	50·0	39·8	44·8	+1·1	29	6	6	1·38	+0·78	20·4	23
7. ENGLAND, N.W.	Newton Reigny	56	32	51·0	38·2	44·4	+2·6	33	11	7	1·09	+0·64	18·5	21
	Stonyhurst	55	36	50·1	40·5	45·2	+2·5	29	4	6	2·02	+1·33	13·7	16
	Blackpool 𝔐	51	39	49·3	41·4	45·2	+1·2	25	2	7	2·16	+1·70	16·2	19
	Manchester	58	34	51·4	41·9	46·5	+3·9	32	0	5	1·11	+0·58	*	*
	Liverpool Obsy. (Bidston)	60	36	52·0	42·6	47·2	+3·3	36	0	6	0·57	+0·20	*	*
	Llandudno 𝔐	57	38	51·2	42·7	46·8	+2·0	34	0	6	0·50	+0·06	14·7	17
	Holyhead	53	40	49·0	43·1	46·0	+0·7	28	0	6	1·03	+0·55	*	*
8. ENGLAND, S.W.	Llandovery	61	39	54·1	42·7	48·2	+4·9	43	0	6	1·02	+0·32	*	*
	Pembroke	50	40	48·3	44·0	46·1	+0·6	29	0	6	0·60	+0·09	25·0	29
	Arlington (N. Devon)	62	35	52·6	42·1	47·3	+3·5	37	0	6	0·74	+0·03	*	*
	Cullompton 𝔐	59	35	54·2	42·3	48·1	+3·5	43	0	4	0·69	+0·10	20·2	23
	Falmouth	58	40	52·7	43·6	48·0	+2·1	42	0	5	0·72	—0·03	35·4	41
	Plymouth	60	41	54·3	44·2	49·1	+3·2	50	0	4	0·55	—0·02	30·6	35
	Prawle Point	53	43	50·0	44·7	47·3	+2·2	37	0	4	0·34	?	*	*
9. IRELAND, N.	Malin Head	52	38	49·3	41·0	45·0	+2·2	25	3	4	0·43	?	*	*
	Londonderry	57	36	51·9	41·1	46·3	+3·5	34	3	6	0·42	—0·18	*	*
	Mullaghmore	55	39	51·3	42·0	46·5	+2·1	32	0	6	0·74	+0·14	*	*
	Belmullet	53	39	51·4	43·7	47·4	+1·4	38	0	5	0·42	?	*	*
	Markree Castle	57	33	53·5	39·5	46·3	+2·7	41	7	7	0·81	+0·25	24·9	29
	Brookeborough	55	34	51·2	39·8	45·3	+3·1	32	6	5	0·71	?	*	*
	Armagh	56	39	51·8	41·7	46·6	+3·3	33	1	5	0·72	+0·23	21·8	25
	Donaghadee	57	38	52·4	42·0	46·9	+2·4	34	0	6	0·78	+0·33	*	*
	Edgeworthstown	56	35	52·6	39·9	46·1	+3·3	38	6	6	0·89	+0·26	*	*
10. IRELAND, S.	Dublin	58	39	53·0	43·8	48·1	+3·4	43	0	5	2·00	+1·52	27·7	32
	Parsonstown	55	35	53·4	41·1	47·1	+3·5	39	3	6	0·61	+0·09	26·7	31
	Kilkenny	57	35	53·1	41·7	47·2	+3·6	38	1	5	1·19	+0·67	*	*
	Waterford	57	37	53·6	42·4	47·8	+2·6	41	0	6	1·61	+0·92	*	*
	Roche's Point	55	39	52·6	43·3	47·8	+2·1	41	0	6	1·42	+0·59	*	*
	Valencia	55	40	53·1	44·7	48·8	+2·1	48	0	5	0·87	—0·08	34·6	40
	Killarney	59	39	54·4	44·7	49·4	+4·4	52	0	6	1·55	?	*	*
	Foynes	55	36	52·4	43·6	47·9	+3·0	41	0	6	0·25	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	55	43	52·0	45·4	48·6	+1 2	46	0	4	0·47	—0·08	*	*
	Jersey	62	43	53·7	45·9	49·7	+4·5	54	0	4	0·67	+0·17	24·7	28

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

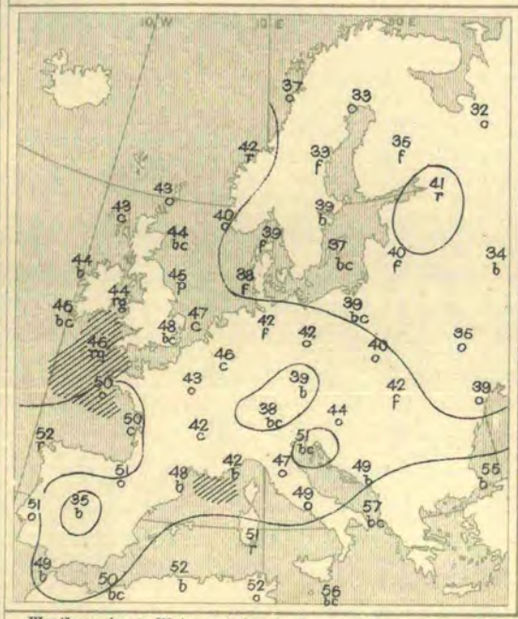
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

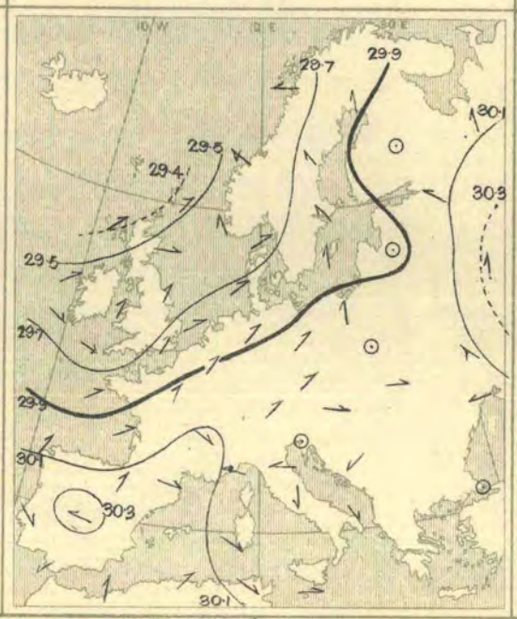
§ The corresponding value in last week's Report should read "4."

Sunday, 23rd March.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather rainy in Wales and the south-west of England, as well as at Christiansund, St. Petersburg, Le Mans, and Corunna; foggy over Finland, Denmark, and the southern shores of the Baltic. Fine in most other localities, but a good deal of cloud reported over the eastern parts of England and the north of Italy. Squally showery weather prevailing over England during day and conditions becoming dull and unsettled in the west of Ireland towards night.

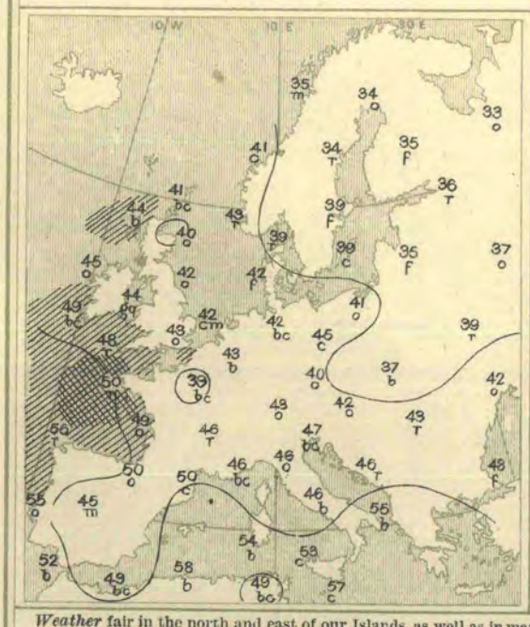
Temperature highest, 50° and upwards, over the central and southern parts of the Mediterranean, as well as over the Bay of Biscay and on the coasts of the Iberian Peninsula (Bilbao 59°, Brindisi 57°, and Malta 56°). Lowest, 32° at Archangel and Hangö, 33° at Haparanda, Hernösand, and Uleaborg, and 34° at Moscow and Kharkov; below 40° in most parts of northern and eastern Europe, as well as over the central parts of Scotland, Ireland, and Spain. Daily maxima very little above 50° in any part of our Islands, but thermometer exceeding 60° over nearly the whole of southern Europe and reaching 65° or a little more at some of the Algerian stations.

Wind fresh or strong from the North-Westward in the extreme south-west of our Islands, light or moderate from the South-Westward over the greater part of England, France, the Netherlands, Germany, and Denmark. Light from the Southward or South-Eastward over Scandinavia and Russia, variable over the Mediterranean, Italy, and the south of Spain. Subsequently backing to the Southward in the extreme west of our Islands and increasing to a gale on some parts of the Irish coasts. No important change occurring at the Continental stations.

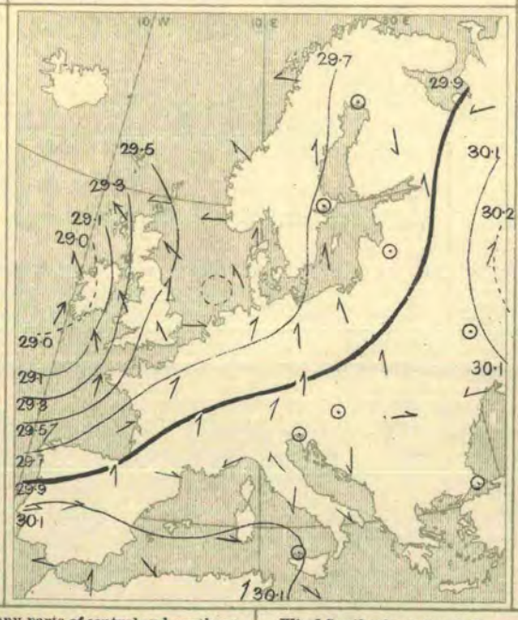
Barometer highest, 30·3 ins. and upwards, in a large anti-cyclone lying over central Russia, and also in a smaller system lying over central Spain. Lowest, 29·4 ins. and less, in a large area lying to the north and north-west of Scotland. Shallow secondary depression lying over the St. George's Channel. Latter system subsequently moving eastwards across England; new and larger disturbance appearing off our extreme west coasts in evening.

Monday, 24th March.

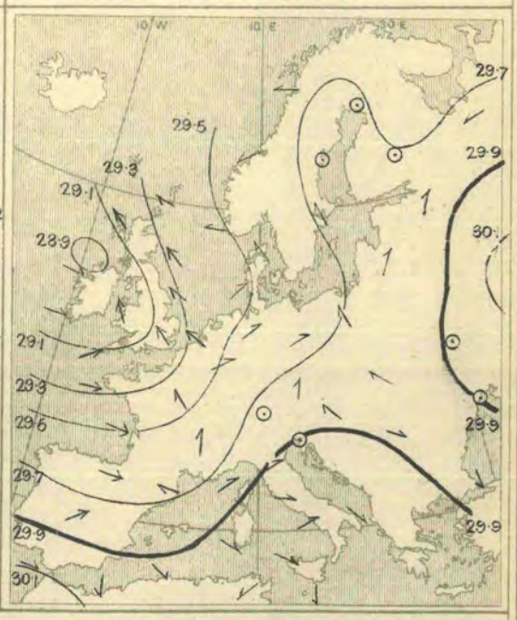
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair in the north and east of our Islands, as well as in many parts of central and southern Europe. Dull elsewhere, with rain in Ireland, France, and the south-west of England, and also at several of the Danish, Russian, and Austrian stations. A good deal of fog reported over the Baltic and the Gulf of Finland. Rain extending later to the north and east of our Islands, but some improvement in the weather taking place on our south-west coasts. Considerable amounts of rain falling in France during day, the heaviest being 1·7 ins. at Nice and 1·4 ins. at Marseilles.

Temperature highest, 50° and upwards, at most of the Mediterranean stations, and also on the coasts of the Iberian Peninsula (Algiers 58°, Malta 57°, Corunna 56°, Barcelona, Lisbon, and Brindisi 55°). Lowest, 31° at Hangö, 33° at Archangel and Cracow, and 34° at Haparanda, Hernösand, Memel, and Kharkov; below 40° in nearly all parts of Russia and northern Europe, as well as in some of the central parts of Great Britain and France. Daily maxima below 50° in most parts of Great Britain, but a little above that point in Ireland. Thermometer rising above 60° over southern Europe and above 70° at some of the Algerian stations, the highest of all being 73° at Algiers.

Wind Southerly or South-Easterly over our Islands, very strong in force on our west and south-west coasts, with a gale at Mullaghmore; light or moderate from the Southward or South-Westward over Spain, France, and the greater part of central Europe, variable over the northern parts of Sweden and Russia; light from the Northward or North-Westward in Italy, and also at some of the Algerian stations. Subsequently veering to the Westward over France and the south-west of our Islands and blowing strongly over the Bay of Biscay. South-Easterly wind increasing in force in the north and east of Scotland.

Barometer highest, 30·2 ins. and upwards, in a large anti-cyclone lying over central Russia, 30·1 ins. and upwards in another large area lying over Algeria, Spain, and the adjacent parts of the Mediterranean. Lowest, 29·0 ins. and less, in a depression having its centre off the west of Ireland, 29·1 ins. and less in a secondary disturbance which was approaching the south-west of England. Secondary disturbance subsequently moving north-eastwards, and barometer falling briskly in all the more northern and eastern parts of the United Kingdom. No important change occurring elsewhere.

Judd & C9 Ltd Lith. 73 & 75, Farringdon Rd & Doctors Com

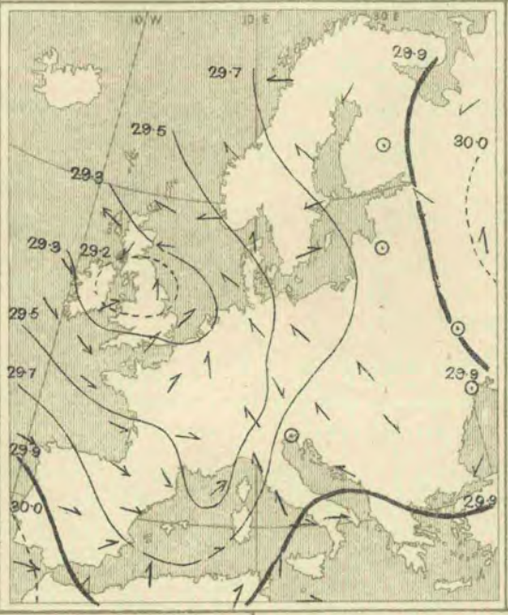
Tuesday, 25th March.

Temperature and Weather.

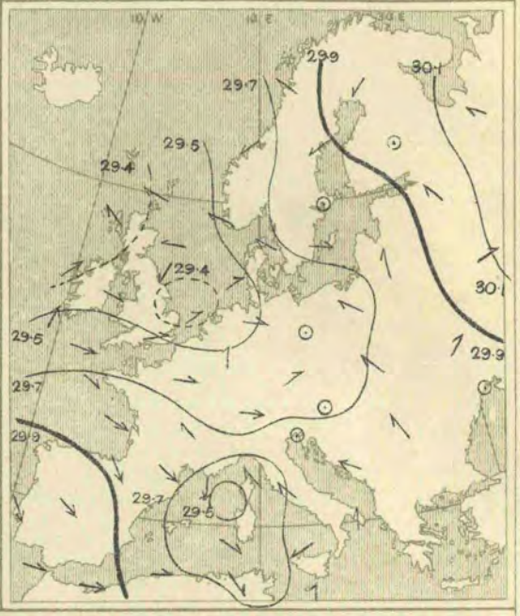
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the south and south-west of our Islands, in the west of France, central Spain, and the southern parts of Germany, Austria, and Italy. Cloudy or overcast in most other localities, with fog over Finland and the north of Sweden, showers at some of our own northern stations, and steady rain over western Germany, the east and south of France, and the north of Spain. Showers falling later in most parts of the United Kingdom and heavy rain at some of the German, French, and Algerian stations, the largest amounts being 2·7 ins. at Nice, 1·9 ins. at Monaco, 1·8 ins. at Croisette, and 1·4 ins. at Toulon.

Temperature highest, 55° to 60°, over the central and southern parts of the Mediterranean, and also on the coasts of the Iberian Peninsula (La Calle 61°, Algiers 59°, Oporto and San Fernando 57°, and Cagliari, Palma, and Malta 56°). Lowest, 17° at Archangel, 27° at Uleaborg, 31° at Haparanda, 32° at Kiev, 33° at Hernösand, and 34° at Kuopio and Helsingfors; below 40° over the whole of northern and eastern Europe. Daily maxima over England and Ireland ranging between 50° and 55°, but thermometer exceeding 60° at some of the German stations, as well as in most parts of southern Europe.

Wind Westerly or North-Westerly in the west and south of our Islands, the west of France, and the greater part of Spain, strong in force in the south-west of England; light from the South-Eastward over Russia and central Europe and from the Eastward over Scandinavia and the northern parts of the United Kingdom. Chiefly Southerly also in Italy and Algeria. Subsequently backing to the Southward in the west of Ireland and increasing somewhat in force. No important change occurring elsewhere.

Barometer highest, 30·0 ins. and upwards, in a large anti-cyclone lying over Russia, and also in a smaller area lying to the south-westward of Spain. Lowest, 29·2 ins. and less, in a large but somewhat shallow depression lying over the more central parts of the United Kingdom. Depression moving eastwards during day and gradually filling up, but new disturbance beginning to affect the mercury on our extreme western coasts. Another system forming over the Gulf of Genoa in evening.

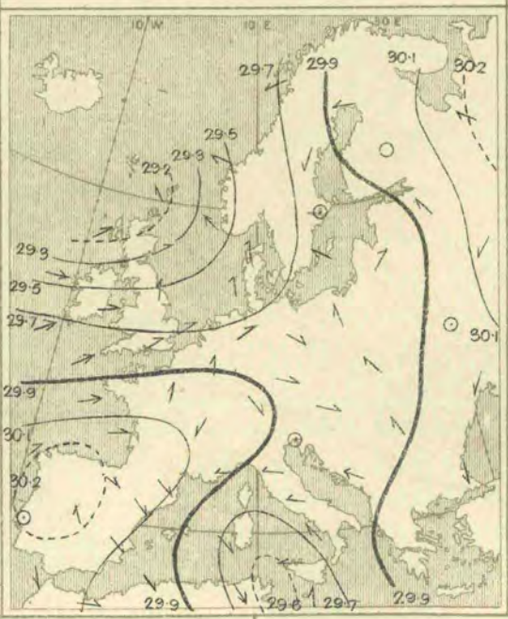
Wednesday, 26th March.

Temperature and Weather.

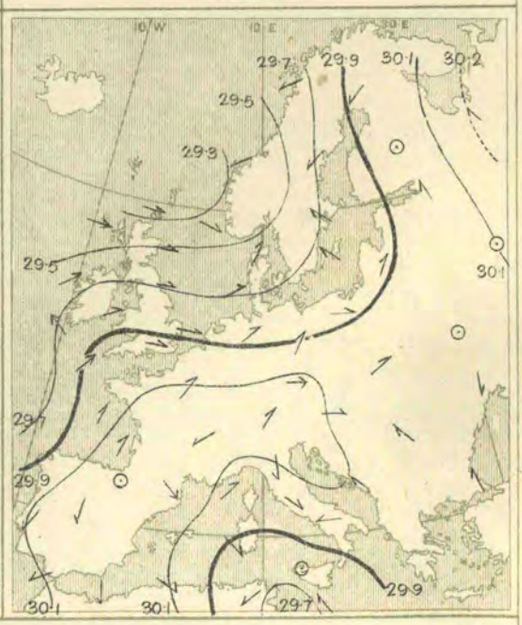
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather varying greatly in different places: fine in many parts of our Islands, as well as in the southern parts of Spain and Russia, but cloudy or overcast in most other localities. Fog reported over Finland and the south of Sweden. Rain falling at several of the Danish and German stations, and also in Algeria, Italy, and the south of France; snow at Uleaborg. Showers falling during day in isolated parts of the United Kingdom and steady rain setting in over Ireland at night, but weather improving in the south of France.

Temperature highest, 55° and upwards, at several of the Mediterranean stations, as well as on the north-west coast of Spain, the highest readings of all being 61° at Malta, 59° at Corunna, 57° at Brindisi, Palermo, and Nemours, 56° at Algiers, and 55° at Lesina, Naples, and Cagliari. Lowest, 6° at Archangel, 22° at Haparanda and Uleaborg, 32° at Hernösand, 34° at Kiev and Stockholm, and 35° at Kuopio, Wisby, and Moscow: below 40° in nearly all parts of northern and eastern Europe. Rising later to 60° at Loughborough and Cambridge, to 61° in London, and to between 65° and 70° over Spain, Algeria, and the extreme south of France.

Wind moderate or fresh from the Westward or South-Westward over our Islands, the Netherlands, and Germany, moderate from the Southward or South-Eastward on the eastern shores of the North Sea, light from South-East in Russia; South-Easterly or Easterly in Italy, Easterly or North-Easterly in the south of France, North-Westerly over the western parts of the Mediterranean; fresh or strong in force at some of the Algerian stations. Subsequently backing to the South or South-East in the extreme south-west of our Islands.

Barometer highest, 30·2 ins. and upwards, over Russia, and also in Spain. Lowest, 29·2 ins. and less, in a depression lying to the northward of Scotland; low, 29·6 ins. and less, in an elongated disturbance lying between the coasts of Sicily and Tunis. Depression to the northward of our Islands subsequently travelling away in a north-easterly direction, but new disturbance approaching the south-west of Ireland in the evening. Anti-cyclone over Spain moving north-eastwards to France.

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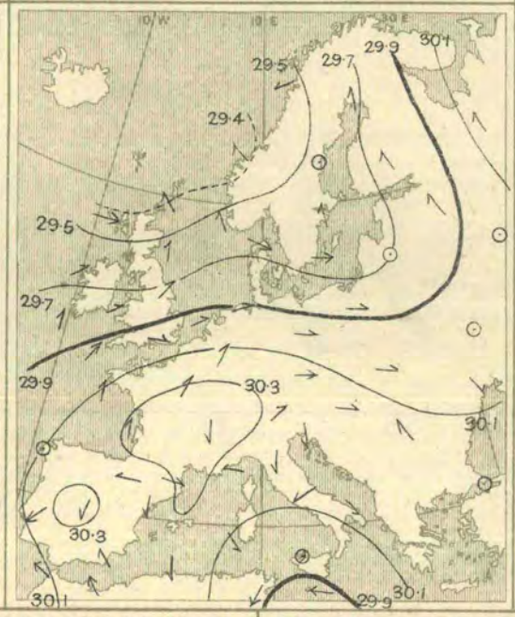
II.—SUMMARY OF WEATHER OVER EUROPE.

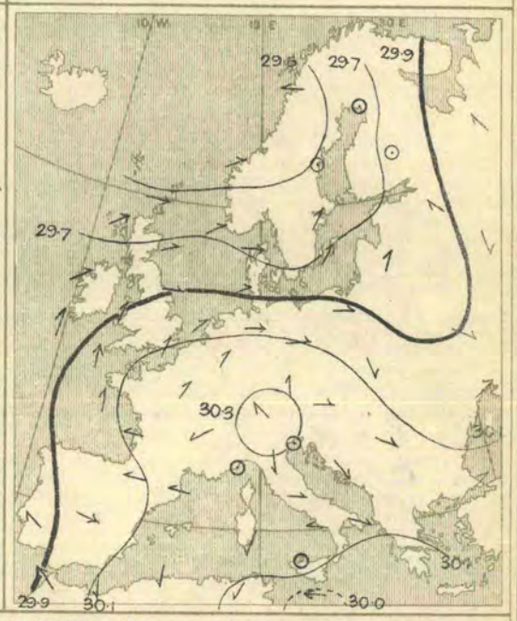
Thursday, 27th March.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the more northern parts of the United Kingdom, as well as over Denmark, central Russia, and the greater part of southern Europe; dull elsewhere, fog or mist over the Channel and Bay of Biscay, rain at several of the English stations, as well as over the Baltic, snow at Bodö and Hernösand. Thunderstorm reported at Sfax. Rain later in the extreme north of Scotland, in Norway, and locally in several parts of Russia and Poland, none elsewhere.

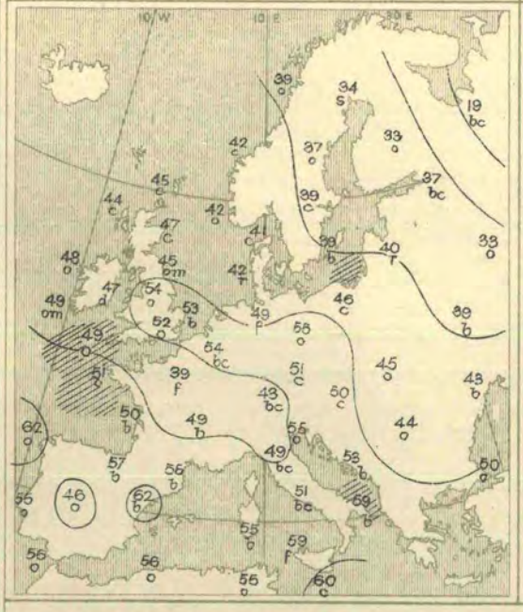
Temperature in morning, highest, 55° and upwards at several of the Spanish and Mediterranean stations (Corunna 62°, Barcelona 61°, Cagliari and Malta 59°, San Fernando and Sfax 58°), 50° to 54° in many parts of western and central Europe. Lowest, 23° at Archangel, 34° at Kuopio and Moscow, and 35° at Bodö, Haparanda, Hernösand, Hangö, Helsingfors, and St. Petersburg; below 40° at most of the Russian and Scandinavian stations. Subsequently rising to 60° at Shields and Cambridge and 64° at Loughborough. Rising to 70° and more in several parts of southern and south-western Europe later and to between 50° and 55° over England.

Wind moderate or fresh from South-West or West over the United Kingdom, Denmark, the Baltic, and the greater part of central Europe; light from the Southward in France, Russia, and Scandinavia; chiefly Northerly or North-Easterly in Italy and Algeria, but South-Easterly in Morocco and the south of Spain. Subsequently backing to the Southward on the west coasts of our Islands, North-Easterly in the south of Portugal. Backing Eastward over Bay of Biscay and Spain later.

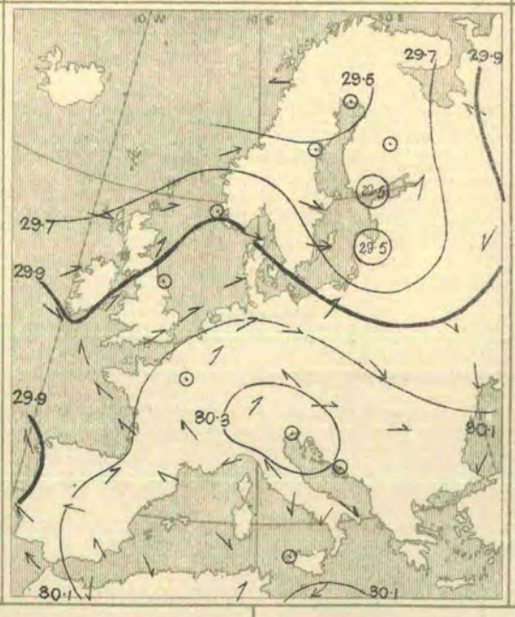
Barometer highest, 30·3 ins. and upwards, over south Germany and the central parts of France and Spain; high, 30·1 ins. and upwards, over Russia. Lowest, 29·4 ins. and less, in a large depression lying to the northward of our Islands, 29·8 ins. and less in a depression lying over the Mediterranean to the southward of Malta. Northern depression travelling away north-eastwards later, but mercury giving way somewhat decidedly over France and Spain.

Friday, 28th March.

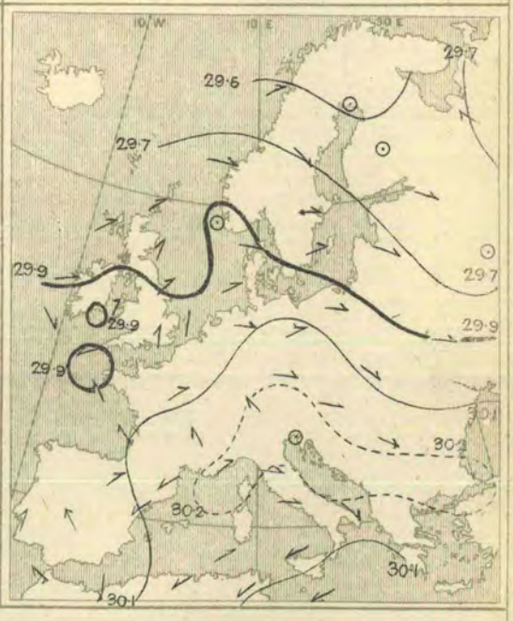
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull in many parts of our Islands, with fog over the English and Bristol Channels, and rain on some parts of our western and northern coasts. Fine at most of the Continental stations, but dull in Sweden and north Germany, as well as over the greater part of Spain, and foggy over the Gulf of Finland. Snow reported at Haparanda. Sky clearing later at many of the English stations, but fog continuing over the Channel, showers in the west and north, and very slight falls over Poland and western Russia.

Temperature highest, 55° to 60° or a little more, over the Mediterranean and the coasts of the Iberian Peninsula (Corunna and Barcelona 62°, Oporto 61°, Malta 60°, Brindisi and Palermo 59°); high, 50° to 54°, over the greater part of England and Germany. Lowest, 19° at Archangel, 33° at Kuopio and Moscow, 34° at Haparanda, Uleaborg, Hangö, and Helsingfors, and 37° at St. Petersburg and Hernösand. Rising during day to between 60° and 66° over eastern and central England, and to 70° and more in many parts of France and Italy, but falling short of that value at most of the Algerian stations.

Wind moderate from the Eastward or South-Eastward over the greater part of France and Spain, light from the Southward or South-Westward over our Islands and the Netherlands, moderate to strong from the Westward over Denmark, the Baltic, the south of Scandinavia, and north Germany, calm over Finland and the north of Sweden, variable over Russia, Austria, Italy, and Algeria. Subsequently shifting to the Eastward in the extreme south of England; not much change elsewhere.

Barometer highest, 30·3 ins. and upwards, over Switzerland and the north of Italy; high, 30·2 ins. and upwards, over nearly the whole of central and southern Europe and the greater part of the Mediterranean. Lowest, 29·5 ins. and less, in a large area lying over the north of Scandinavia, and also in two small depressions lying over Finland and the Baltic Provinces; low, 29·9 ins. and less, in a shallow disturbance lying to the westward of Portugal. Small depression advancing from the Southward later to the mouth of the Channel.

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II.—SUMMARY OF WEATHER OVER EUROPE

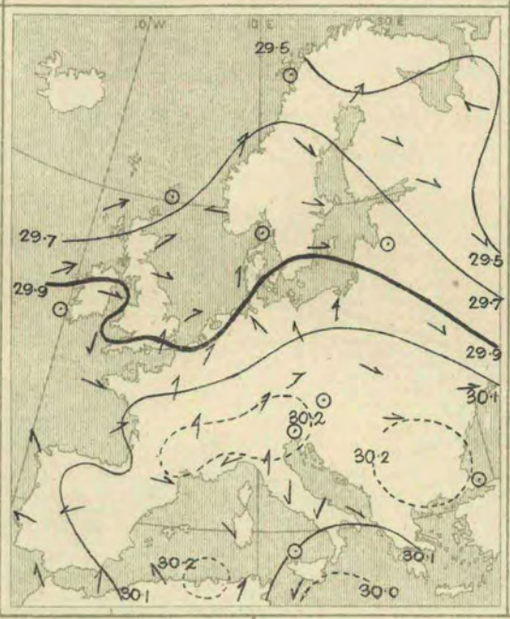
Saturday, 29th March.

Temperature and Weather.

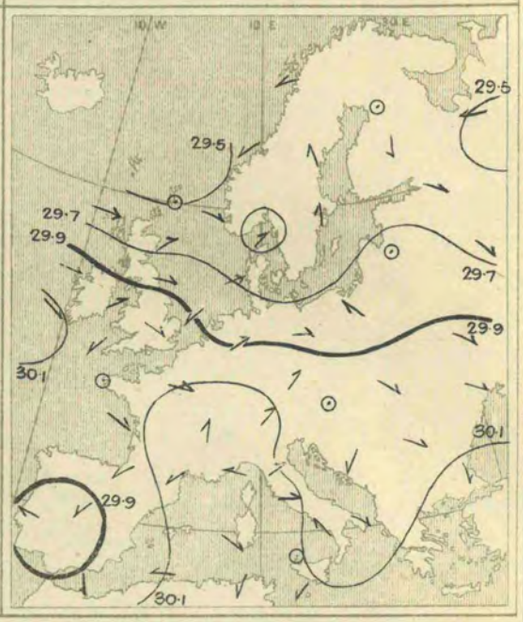
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over south-eastern, southern, central, and nearly the whole of western Europe, cloudy, changeable, and unsettled in the north-west, north, and north-east, with rain in several places and snow over Finland. Rainfall slight in the north-west and north later, and also over Poland; no measurable quantity elsewhere.

Temperature risen over Spain, France, Ireland, and southern Russia, fallen as a rule in other places, but changing fitfully in the north-west as a whole. Morning readings varying from 50° to 64° over southern and south-western Europe, below 50° over the United Kingdom, and below 40° over northern Europe. No frost (in shade) at that hour. Daily maxima ranging from 60° to 70° and more over southern Europe and Algeria, and ranging between 50° and 59° over the inland parts of the British Islands; succeeding night cold inland.

Wind, as a whole, South-Westerly, but varying locally between South-East and West over the United Kingdom and north-western Europe. Very light and variable in other places, but drawing generally into Eastward and South-Eastward over Spain. Becoming more Westerly in the north of our Islands later and Southerly (light) over the Baltic, Westerly in Germany.

Barometer highest, 30·1 ins. and more, over southern and south-eastern Europe, with the Mediterranean, and exceeding 30·2 ins. over some parts of Algeria. Lowest, 29·5 ins. and less, over Lapland, and 29·6 ins. and less off the north-west of Scotland. Shallow local disturbances observed over the North Sea and England. Latter disturbance passing eastwards later and high-pressure band forming over the south-west of our Islands, Brittany, and France.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week pressure has been highest over the south-western, southern, and eastern parts of Europe, lowest in the north-west, and depressions, varying in size and intensity, have passed over the latter regions, causing showers, and fresh breezes from between South and North-West.

The disturbances which appeared early in the week were larger than those experienced later, the secondary systems to that of the 24th-25th spread in the form of a hollow over the whole of central Europe, while their (shallow) systems appeared over the Mediterranean. After Wednesday the high-pressure area over central Europe spread northwards, the depressions which appeared in our neighbourhood were small and shallow, and the weather over northern and north-western Europe improved greatly.

ERRATA.

In the Report for last week, page 67, the figures under "Rainfall"—"Difference from the mean" are erroneous. The following should be substituted:—

Scotland N.	−0·7	Scotland W.	−1·9
Scotland E.	+0·3	England N.W.	−0·7
England N.E.	−1·0	England S.W.	−2·8
England E.	+0·1	Ireland N.	−0·5
Midland Counties	−1·7	Ireland S.	+1·1
England S.	−1·4	Channel Islands	−1·0

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 14.] *Third Series.* WEEK ENDING SATURDAY, 5TH APRIL, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 80.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	62	25	52·7	35·4	43·6	2 above.	39	+24	18	− 7	183	+67	358	− 75
	1. SCOTLAND, EAST -	65	27	56·4	34·9	45·1	3 above.	52	+30	20	− 4	233	+63	403	− 81
	2. ENGLAND, N.E. - -	61	23	52·4	34·7	43·2	0 (average)	39	+17	20	0	218	+42	328	−105
	3. ENGLAND, EAST -	61	25	51·9	32·6	41·8	2 below.	28	− 2	37	+16	240	− 2	421*	− 33
	4. MIDLAND COUNTIES	64	24	54·8	29·9	41·8	2 below.	36	+ 4	47	+27	269	−12	426	− 21
	5. ENGLAND, SOUTH -	63	25	54·2	34·8	44·0	2 below.	44	+10	20	+ 5	298	−21	291	− 50
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	60	26	53·6	35·5	44·1	1 above.	42	+18	18	+ 2	234	+41	284	− 72
	7. ENGLAND, N.W. -	62	28	53·8	35·5	44·2	1 below.	43	+17	18	+ 3	235	+37	274	− 74
	8. ENGLAND, S.W. -	65	27	53·9	35·7	44·4	2 below.	43	+11	18	+ 7	330	+18	235	+ 23
	9. IRELAND, NORTH -	62	26	55·1	36·5	45·4	1 above.	47	+19	15	+ 1	268*	+20	272*	− 43
	10. IRELAND, SOUTH -	61	28	55·6	35·7	45·2	1 below.	49	+14	18	+ 7	366	+17	218	+ 2
	— CHANNEL ISLANDS -	57	41	52·2	43·1	47·5	0 (average)	39	+ 4	0	− 3	441	+80	71	− 20

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 80.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	3	1	4 less.	70	+ 4	15·4	− 1·2	44	48	196	−32	21	− 3
	1. SCOTLAND, EAST -	1	1	4 less.	55	+ 6	8·2	− 0·1	55	60	251	−32	27	− 3
	2. ENGLAND, N.E. - -	0	—	5 less.	48	0	5·3	− 1·1	49	54	232	− 1	24	0
	3. ENGLAND, EAST -	0	—	4 less.	52	+ 4	5·7	− 0·2	55	61	298	− 4	31	0
	4. MIDLAND COUNTIES-	0	—	4 less.	46	− 1	5·3	− 2·0	56	62	262	− 2	27	0
	5. ENGLAND, SOUTH -	0	—	4 less.	46	0	5·8	− 1·7	64	71	286	+10	29	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	1	2	3 less.	61	+ 3	13·8	− 2·1	53	59	227	−14	24	− 1
	7. ENGLAND, N.W. - -	1	1	4 less.	57	+ 6	8·6	− 0·4	55	61	243	+ 7	26	+ 2
	8. ENGLAND, S.W. - -	1	1	5 less.	54	− 1	9·1	− 3·3	69	76	325	+29	33	+ 3
	9. IRELAND, NORTH -	1	1	5 less.	63	0	8·8	− 0·8	54	60	259	− 1	27	0
	10. IRELAND, SOUTH -	1	1	6 less.	60	+ 1	12·8	+ 1·0	61	63	308	+10	32	+ 2
	— CHANNEL ISLANDS -	1	less than ½	5 less.	55	− 5	8·2	− 1·4	69	77	380	+19	38	+ 2

General Remarks.

Weather has been very fine and bright in all parts of the Kingdom, with fairly warm days, cold nights, and very dry air. At the close of the week, however, it had become less settled, and slight rain was experienced at our western and northern stations.

Temperature has varied a good deal in different parts of the country, but, as a rule, it has been rather high during the day time and very low at night. The averages for the week are somewhat above the normal value over Scotland, in north-west of England and in the north of Ireland, but in most other districts a slight deficit is shown. The highest of the maxima, which were recorded either on March 30th or April 5th over England, and on irregular dates over Ireland and Scotland, ranged from 65° in "Scotland E." and "England S.W.," and from 64° in the "Midland Counties," to 57° in the "Channel Islands." The absolute minima were very low for the time of year and occurred during the latter half of the period, when they varied from 24° in the "Midland Counties" to 28° over the north of England and south of Ireland. In the "Channel Islands" the lowest reading was only 41°. The ground frosts were very severe, the thermometer on the grass falling to 18° at Oxford on the night of the 1st–2nd, and to 17° in London on that of the 4th–5th.

Rainfall was altogether absent until the close of the week, when slight amounts were registered in the western and northern districts.

Bright Sunshine has been more prevalent than for many months past, the percentage of the possible duration having ranged from 48 in "Scotland N." to between 60 and 70 in most other districts, while in "England S.W." and the "Channel Islands" 76 and 77 per cent. were recorded respectively.

Barometer and Wind.—During this period the barometric condition over our Islands was anti-cyclonic and the winds generally light from the South-Westward in the north, and moderate from the Eastward or North-Eastward in the south. At the Channel stations the wind at times blew strongly. At the end of the week the anti-cyclone was dispersing and a South-Westerly wind was spreading to all districts.

* This value has been altered owing to the receipt of further information.

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III.- DATA from which the SUMMARY on page 79 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	52	34	49·1	38·3	43·4	+2·6	25	10	3	0·07	—0·48	*	*
	Stornoway	56	32	51·0	37·9	44·2	+2·1	33	11	3	0·17	—0·53	41·0	45
	Wick	57	35	53·6	36·6	44·7	+3·7	42	15	2	0·12	—0·26	*	*
	Lairg ℌ	62	25	54·6	31·1	42·3	+1·6	48	31	2	0·06	—0·49	*	*
	Glencarron ℌ	60	31	52·4	34·5	43·0	+1·4	39	21	3	0·32†	—0·76	?	?
	Fort Augustus ℌ	62	31	55·2	33·8	44·0	+1·6	48	23	2	0·07†	?	46·7	51
1. SCOTLAND, E.	Nairn	60	29	56·3	34·4	44·8	+2·6	52	21	2	0·07	—0·27	*	*
	Aberdeen	58	34	54·0	37·9	45·6	+4·2	42	11	2	0·08	—0·43	60·4	66
	Braemar ℌ	59	27	54·4	32·3	42·8	+4·0	46	27	2	0·13	—0·41	53·2‡	58‡
	Ochtertyre ℌ	65	28	60·0	33·1	45·9	+3·4	65	25	1	0·09	—0·46	*	*
	Leith	62	31	57·6	35·1	45·8	+2·1	56	19	1	0·04	—0·31	*	*
	Marchmont ℌ	61	32	55·9	36·4	45·7	+4·0	49	16	0	—	—0·55	51·5	57
2 ENGLAND, N.E.	Alnwick Castle	52	32	50·1	35·9	42·7	+0·4	31	17	0	—	—0·52	*	*
	Durham	60	28	56·2	32·0	43·5	+1·2	53	28	0	—	—0·50	49·8	55
	Shields	56	32	53·7	35·9	44·4	+1·6	42	17	0	—	—0·40	*	*
	Scarborough ℳ	54	30	50·6	35·1	42·5	—0·3	32	19	1	0·01	—0·42	48·4‡	54‡
	York	61	28	56·0	31·4	43·1	—1·0	52	30	1	0·01	—0·39	48·2	54
	Spurn Head	53	35	48·0	38·0	42·8	—0·7	22	11	0	—	?	*	*
3. ENGLAND, E.	Hillington ℳ	57	26	52·5	30·9	41·2	—1·9	29	43	0	—	—0·38	52·0	58
	Yarmouth	56	36	47·4	38·1	42·5	—1·3	20	11	0	—	—0·41	*	*
	Geldeston	59	27	50·4	33·0	41·3	—3·3	24	35	1	0·03	—0·32	57·5	64
	Cambridge	61	25	55·7	30·0	42·2	—2·5	52	34	0	—	—0·38	55·2	61
	Rothamsted	58	28	52·6	30·6	41·1	—3·2	30	44	0	0·01§	—0·45	*	*
	Ingatestone	59	31	52·7	33·1	42·4	—1·9	40	25	0	—	—0·32	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	59	24	55·3	29·1	41·6	—1·8	37	50	0	—	—0·38	50·8‡	56‡
	Loughborough	64	26	57·6	29·9	43·1	—1·3	59	34	0	—	—0·38	53·3‡	59‡
	Cheadle ℳ	59	28	53·1	32·2	42·2	—0·6	43	27	1	0·02	—0·50	*	*
	Churchstoke ℳ	61	26	54·3	28·2	40·6	—3·2	34	52	0	—	—0·40	55·2	61
	Hereford ℳ	60	26	54 7	29·6	41·6	—3·4	36	48	0	—	—0·40	*	*
	Cirencester	58	26	53·3	29·0	40·6	—3·8	32	50	0	—	—0·50	56·4	63
	Oxford	61	28	55·4	31·3	42·8	—2·8	51	30	0	—	—0·38	63·7	71
5. ENGLAND, S.	London	60	30	55·0	34·6	44·3	—1·9	47	21	0	—	—0·41	52·5‡	58‡
	Strathfield Turgiss ℳ	62	25	57·0	29·2	42·4	—2·5	57	36	1	0·03	—0·37	*	*
	Dungeness	52	33	49·6	38·6	43·8	—2·5	27	10	0	—	—0·42	? ‡	? ‡
	Hastings (St. Leonards)	55	35	50·7	38·4	44·3	0·0	31	10	0	—	—0·45	73·1	81
	Southampton	63	31	58·6	33·6	45·5	—0·2	60	24	0	—	—0·48	71·9	80
	Hurst Castle	57	33	54·3	36·6	45·0	—1·5	44	15	0	—	—0·43	*	*
	Stowell ℳ	58	30	54·2	32·3	42·7	—1·6	46	27	1	0·03	?	57·1‡	63‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	60	31	56 2	37·7	46·5	+3·7	50	12	2	0·29†	—0·87	*	*
	Glasgow	59	33	54·8	36·0	45·0	+1·7	46	17	1	0·38	—0·15	45·8	50
	Ardrossan	56	34	53·4	38·6	45·6	+2·2	39	10	1	0·26	—0·27	*	*
	Glenlee ℌ	59	26	52·8	30·3	41·0	—2·4	30	45	1	0·13	—0·59	*	*
	Douglas (Isle of Man)	52	31	51·0	35·0	42·6	—2·2	34	20	1	0·04	—0·53	60·6	67
7. ENGLAND, N.W.	Newton Reigny	62	28	56·6	32·0	43·7	+1·1	54	28	0	—	—0·44	56·9	63
	Stonyhurst	56	29	52·6	31·4	41·5	—2·4	30	41	1	0·04	—0·56	58·0	64
	Blackpool ℳ	54	30	51·8	36·9	43·9	—1·6	35	14	1	0·05	—0·38	44·8	50
	Manchester	60	29	54·4	33·8	43·6	+0·2	46	23	1	0·02	—0·49	*	*
	Liverpool Obsy. (Bidston)	56	35	53·4	37·1	44·9	—0·3	41	14	1	0·04	—0·32	*	*
	Llandudno ℳ	56	35	53·7	37·5	45·2	—0·7	41	13	1	0·02	—0·39	58·3	65
	Holyhead	56	37	53·9	39·9	46·6	+0·3	41	6	1	0·27	—0·18	*	*
8. ENGLAND, S.W.	Llandovery	65	27	58·7	30·0	43·7	—0·9	62	34	1	0·11	—0·57	*	*
	Pembroke	54	36	50·0	38·1	43·8	—2·9	29	11	2	0·13	—0·37	65·2	72
	Arlington (N. Devon)	56	29	53·7	32·4	42·5	—3·8	44	27	1	0·31	—0·40	*	*
	Cullompton ℳ	62	28	56·6	31·4	43·4	—2·3	54	30	1	0·05	—0·55	69·5	77
	Falmouth	55	38	50·9	40·4	45·4	—1·6	31	4	1	0·07	—0·68	66·6	74
	Plymouth	59	36	55·8	38·5	46·7	—0·3	48	10	1	0·07	—0·51	73·0	81
	Prawle Point	56	34	51·7	38·9	45·0	—1·4	34	9	1	0·05	?	*	*
9. IRELAND, N.	Malin Head	56	39	51·6	41·4	46·3	+2·8	33	2	2	0·14	?	*	*
	Londonderry	62	32	58·9	36·6	47·2	+2·8	59	15	1	0 03	—0·55	*	*
	Mullaghmore	59	35	54·1	40·1	46·8	+1·1	42	5	0	—	—0·54	*	*
	Belmullet	57	38	53·3	40·7	47·0	+0·3	40	4	2	0·17	?	*	*
	Markree Castle	60	26	56·0	33·3	44·1	—0·6	51	24	0	—	—0·56	48·3	54
	Brookeborough	60	26	56·5	31·8	43·6	—0·1	54	29	1	0·05	?	*	*
	Armagh	59	26	55·9	31·5	43·1	—1·6	52	29	1	0·07	—0·43	58·6	65
	Donaghadee	58	32	52·7	39·3	45·7	+0·2	37	8	1	0·07	—0·38	*	*
	Edgeworthstown	59	29	56·3	33·6	44·7	+1·3	54	24	0	—	—0·59	*	*
10. IRELAND, S.	Dublin	56	31	54·0	37·0	45·1	—0·7	43	14	1	0·06	—0·42	59·0	66
	Parsonstown	60	28	58·1	33·1	45·2	+0·5	60	25	1	0·03	—0·47	61·7	69
	Kilkenny	61	28	57·6	31·6	44·0	—0·6	58	29	1	0·16	—0·36	*	*
	Waterford	60	29	55·2	33·1	43·6	—2·8	49	25	1	0·14	—0·54	*	*
	Roche's Point	54	35	52·3	38·0	44·8	—1·7	36	11	1	0·01	—0·81	*	*
	Valencia	58	36	55·3	38·7	46·6	—0·7	46	9	2	0·12	—0·33	62·0	69
	Killarney	59	31	56·2	37·2	46·2	+0·5	50	13	1	0·03	?	*	*
	Foynes	58	32	55·7	36·9	45·9	+0·4	49	14	1	0·02	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	42	51·1	43·3	47·0	—1·1	35	0	1	0·04	—0·52	*	*
	Jersey	57	41	53·3	42·9	47·9	+1·4	41	0	1	0·01	—0·49	69·0	77

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

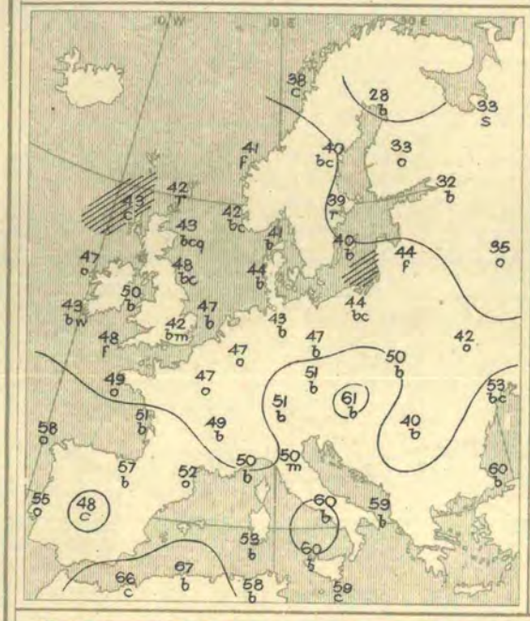
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

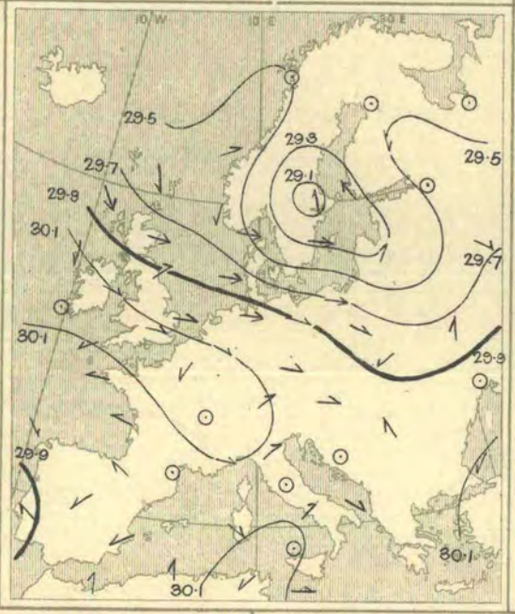
§ Dew.

Sunday, 30th March.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright over the western and southern parts of the British Islands, as well as over the Mediterranean, France, Germany, Austria, and many of the more southern parts of Russia; changeable and unsettled over Scotland and northern Europe, with showers of rain, sleet, and hail in several places. Rainfall (rain, snow, and hail) confined to the northern districts during day, excepting some local falls in southern Russia and on the Algerian coast.

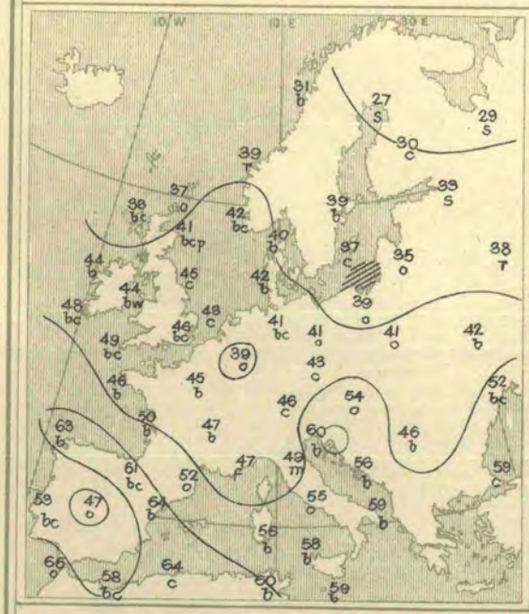
Temperature changing little as a whole, but diurnal range considerable over north-western Europe. Morning readings ranging from 50° to 67° at the Mediterranean stations and in the north and west of Spain, and from 50° to 60° over a great deal of central Europe; below 50° over the United Kingdom, below 40° over the greater part of northern Europe and at Moscow, and as low as 28° at Uleaborg and 32° at St. Petersburg. Rising to between 55° and 60° over the inland parts of Ireland and England later, to 64° at Berlin, and to between 72° and 75° in the south-west of France.

Wind moderate to strong from West over the Baltic, Germany, the eastern shores of the North Sea, and greater part of England, North-Westerly to Northerly in Ireland and Scotland. Very light and variable over eastern, central, and southern Europe, and Easterly over the Bay of Biscay and western parts of the Channel. Easterly wind on our south-west coasts showing a tendency to spread North-Eastwards later.

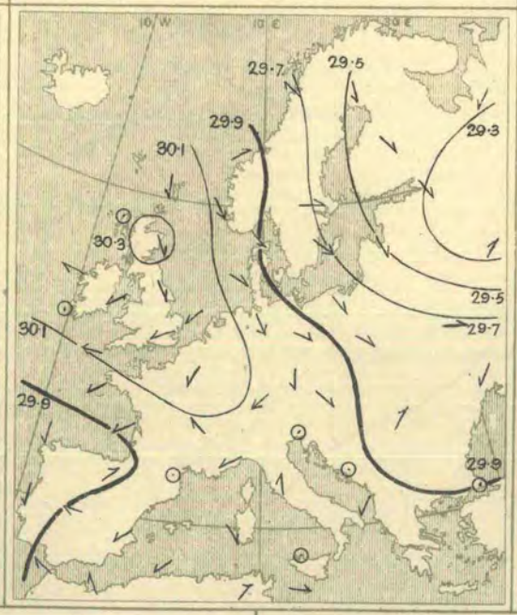
Barometer highest, 30·1 ins. and more, in an elongated area stretching from Ireland across the south-west and south of England to the north-east of France, south Germany, and Switzerland, and 30·0 ins. and more over southern and south-eastern Europe and the Mediterranean. Lowest, 29·1 ins. and less, in the central part of a well-marked depression lying near Stockholm. Gradients slight except over Denmark and the Baltic. Depression passing eastwards later; barometer rising over north-western Europe, and anti-cyclonic system forming over the United Kingdom and its neighbourhood.

Monday, 31st March.

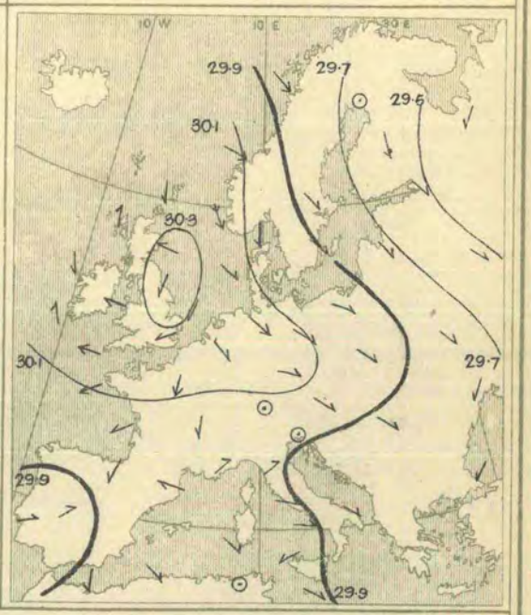
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy and showery (snow or rain) over the northern half of Russia, Finland, and some parts of Scandinavia, with very slight showers in the east of Scotland also; fine and bright over western, southern, and south-eastern Europe. Slight cold showers in certain northern localities and some parts of Germany later; weather fine and dry elsewhere.

Temperature falling in most places; morning readings ranging between 50° and 64° at the Mediterranean stations and on the coasts of the Spanish Peninsula, below 50° over the United Kingdom and the northern parts of Germany and France, below 40° over northern Europe, and below the freezing point in Finland and at Archangel; lowest of all, 27° at Uleaborg. Daily maxima 50° to 58° over our Islands later, and exceeding 70° in the south-west of France and in Italy; reported to exceed 86° at Algiers.

Wind very light and variable from between North and East over the United Kingdom, moderate Northerly to North-Westerly over Scandinavia and the Baltic, North-Westerly to Westerly over Austria and southern Russia, North-Easterly to Easterly over France and Spain. Drawing round to South in the extreme west of Ireland later; not much change elsewhere.

Barometer highest, 30·3 ins. to 30·1 ins., in an anti-cyclone lying over the British Islands; North Sea and Netherlands, and exceeding 30·0 ins. over the south-east of France and the Mediterranean. Lowest, 29·3 ins. and less, in a large depression lying over the northern half of Russia, and apparently below 29·9 ins. off the coast of Portugal. Hardly any change over western Europe later, but barometer rising over Scandinavia, as the depression in that region moved Eastward to the Baltic Provinces.

Judd & Co Lte Lith. 73 & 75, Farringdon Rd & Doctors Commons.

II.—SUMMARY OF WEATHER OVER EUROPE.

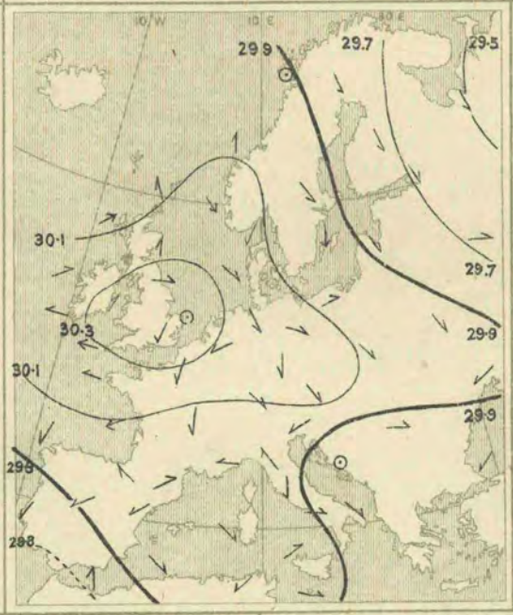
Tuesday, 1st April.

Temperature and Weather.

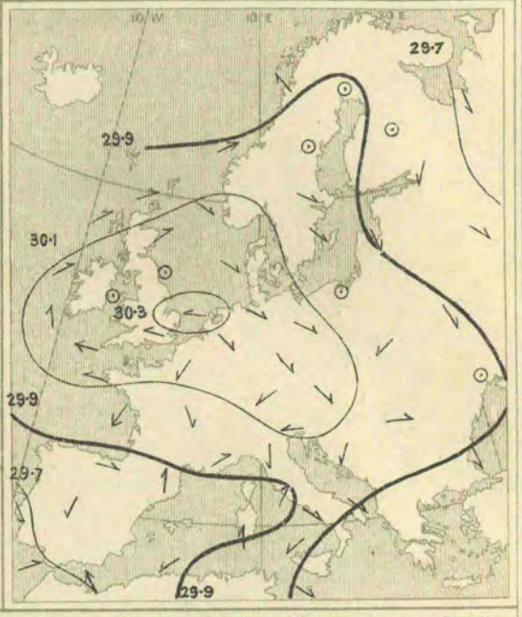
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over western and southern Europe as a whole, dull in the north and east, with slight snow at Archangel and St. Petersburg. Slight showers in extreme north of our area later, but weather over north-western Europe mostly dry and cold, especially over England at night. Heavy rain falling at some of the Spanish stations, the largest amounts being 2·1 ins. at San Fernando and 0·8 in. at Madrid.

Temperature in morning varying from 48° to 65° at the Mediterranean stations and from 50° to 59° on the Atlantic coasts of the Iberian Peninsula; below 50° elsewhere, below 40° over eastern and northern Europe, and as low as 11° at Archangel, 22° to 28° over Finland, and 28° to 31° over the north midland counties of England. Rising to between 55° and 59° in Scotland and Ireland later, less mild over England, and falling fast again as night came on. Daily maxima exceeding 70° in some parts of Algeria, Sicily, and the extreme south of France, the highest readings of all being 81° at Biskra and Gap, and 77° at Laghouat.

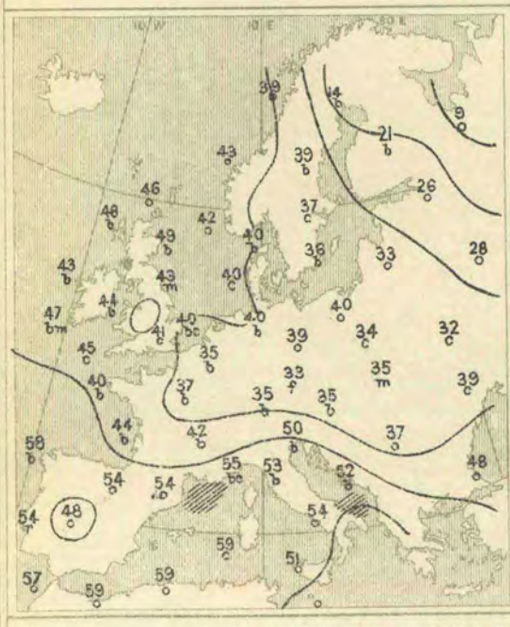
Wind very light in most places, moderate at the most northern and western stations. Mainly South-Westerly in the north of our Islands, North-Westerly to Northerly over the Baltic and Germany, North-Easterly over Spain, Easterly over the Channel and Bay of Biscay. Becoming Southerly in the west of Ireland later and freshening from East in the Channel; no great change elsewhere.

Barometer highest, 30·1 ins. to nearly 30·4 ins., in an anticyclone lying over the United Kingdom and north-western Europe. Lowest, 29·5 ins. and less, over the north-east of Russia, about 29·7 ins. over the Black Sea, and below 29·8 ins. in the extreme south of Spain. Falling later at the southern stations, owing to the advance of a depression towards Spain from the Atlantic.

Wednesday, 2nd April.

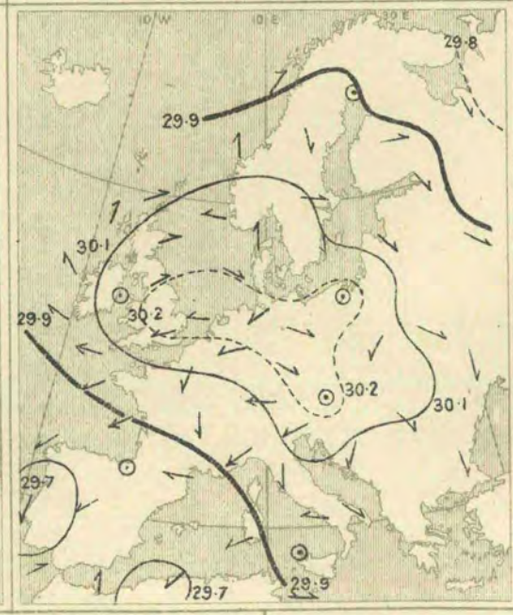
Temperature and Weather.

8 a.m.

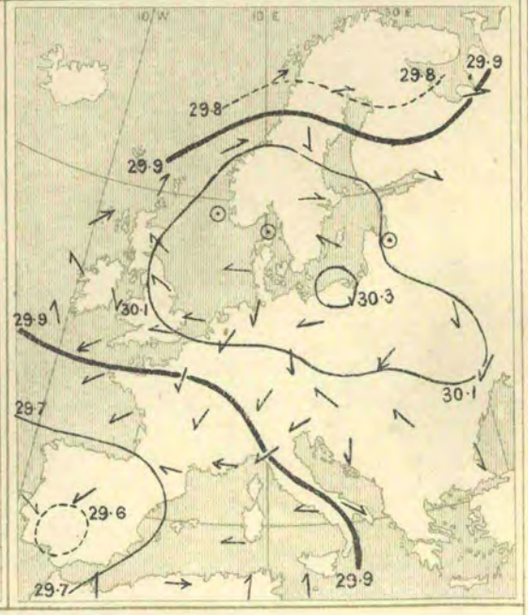


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over nearly the whole of Europe, but dull in many parts of Russia and north Germany, in Norway and some parts of Spain, rainy at Lisbon. Continuing dry throughout our Islands during the day; some rain at Christiansund later, as well as in Spain and the south of France—heavy (1·3 ins.) at Croisette.

Temperature rather low, varying from 50° to 61° at the Mediterranean stations and on the Portuguese and Spanish coasts, much lower elsewhere. Morning readings as low as 32° at Loughborough, and also at Keiv, 28° at Hangö and Moscow, 26° at St. Petersburg, 21° at Kuopio, and 9° at Archangel. Rising to between 50° and 57° over Scotland and Ireland later, to 60° and more over France and southern Europe, to 70° and more in Sicily and isolated parts of France, and to 80° or more at some of the Algerian stations.

Wind Easterly to North-Easterly over France, the Channel, and south-western Europe, and blowing strongly at several of the Mediterranean stations and at Scilly; moderate from South-East in Ireland, light from the Southward in Scotland and the west of Norway, but Westerly at Stockholm, Kuopio, Swinemunde, and Fanö. Subsequently increasing to fresh breeze from South-West in the Hebrides, and to strong breeze in the north-west of Norway.

Barometer highest, 30·1 ins. to 30·2 ins. and more, in a large anticyclone covering the British Islands, the North Sea, the southern parts of Scandinavia, and central Europe. Lowest, 29·8 ins. and less, over the north-east of Russia, 29·7 ins. and less in two shallow depressions, one lying near Lisbon and the other near Algiers. Barometer falling slightly over north-western Europe. Depression observed near Lisbon in morning subsequently moving eastward across the south of Spain.

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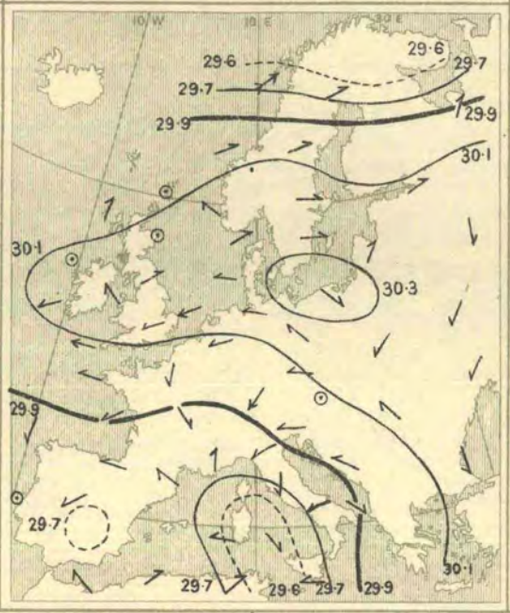
II.—SUMMARY OF WEATHER OVER EUROPE.

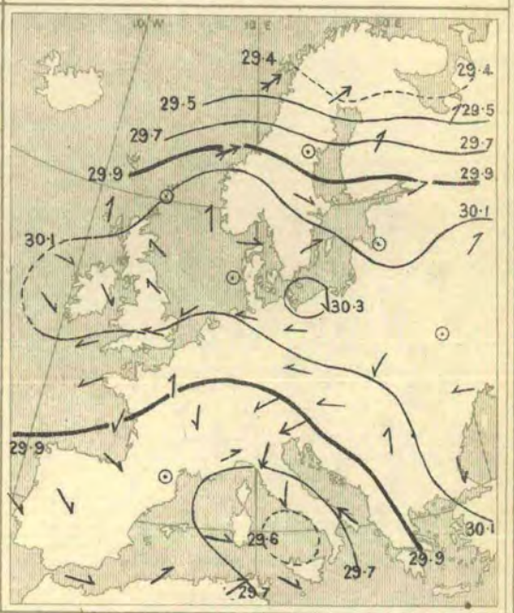
Thursday, 3rd April.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in nearly all parts of western, central, and eastern Europe, hazy or foggy at some of the British and Irish stations. Dull over the greater part of the Mediterranean and southern Europe, and also in the north of Scandinavia, with rain at Rome and Algiers as well as at Bodö. Rain falling later over the whole of southern Italy—heavily (0·9 in.) at Naples.

Temperature highest, 55° to 60° or a little more, over the Mediterranean, and also on the coasts of the Iberian Peninsula (Oporto 63°, Palermo and Malta 62°, La Calle 60°, and Brindisi and Cagliari 59°). Lowest, 13° at Archangel, 23° at Moscow, 30° at St. Petersburg and Kharkov, 32° at Helsingfors, Warsaw, and Nicolaieff, and 33° at Kiev and Parsonstown. Daily maxima over England mostly below 55°, but thermometer rising to 60° or more at some of the Irish and Scotch stations, as well as in most parts of southern Europe, and to 70° or more in Algeria.

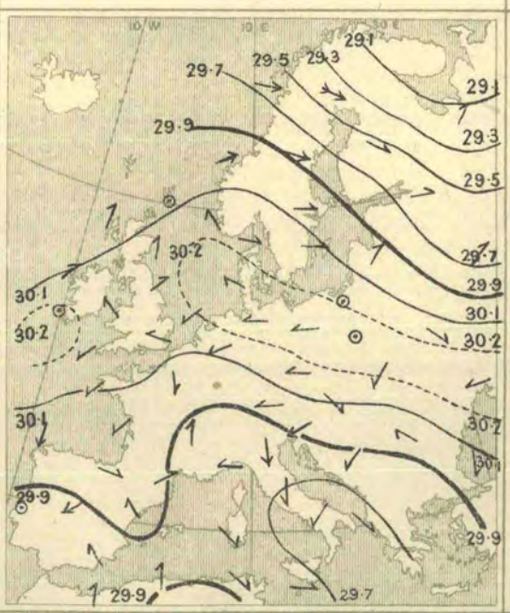
Wind Easterly or North-Easterly over the greater part of England and France, as well as over central and southern Europe; fresh or strong in force over the English Channel, light and variable in the western and northern parts of the United Kingdom; Westerly or South-Westerly in Scandinavia and northern Russia, with a gale at Bodö. South-Westerly gale subsequently extending southwards to Christiansund.

Barometer highest, 30·3 ins. and upwards, over Prussia and the southern parts of the Baltic; high, 30·1 ins. and upwards, in a large anticyclone extending right across Europe from Ireland to Russia. Lowest, 29·6 ins. and less, in a large depression lying over Lapland, and also in another disturbance lying between the coasts of Tunis, Sicily, and Sardinia. Depression in far north subsequently growing deeper, and the Mediterranean disturbances moving slowly eastwards to Italy.

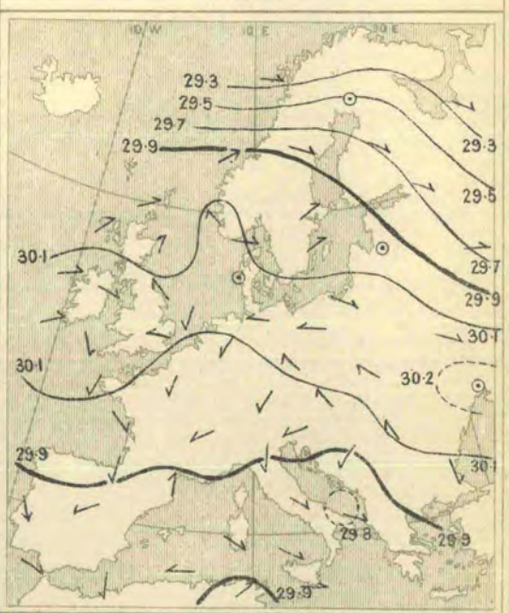
Friday, 4th April.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in nearly all parts of western, central and eastern Europe, but cloudy or overcast in the west of Norway, as well as in Spain, Algeria and the Adriatic. Haze reported in many parts of the United Kingdom. Rain falling at Perpignan, and snow at Archangel and Moscow. Solar halos seen later at several of our western stations, a little rain falling in some parts of Ireland and Scotland, and larger quantities in the south of France and at Bodö.

Temperature highest, 55° to 60°, at several of the Mediterranean stations, and also on the coasts of the Iberian Peninsula (Palma and Oran 60°, Brindisi 59°, Barcelona and Algiers 58°). Lowest, 24° at Kharkov, 27° at Nicolaieff, 30° at Kiev and Moscow, 32° at Cracow, 33° at Warsaw, Breslau, and Odessa, and 35° at Archangel, St. Petersburg, Riga, Lemberg, and Parsonstown. Subsequently rising to between 55° and 60° in many parts of the United Kingdom and to 62° at Leith; exceeding 60° in the south of France and over Italy, and exceeding 70° at some Algerian stations. Falling later, and sharp ground frost occurring over England at night.

Wind light Southerly or South-Westerly in the extreme west and north of our Islands, strong to a gale from the Westward over the north of Scandinavia, light or moderate from the same quarter over northern Russia and the Baltic. Light or moderate from the Eastward over central Europe, and from the North-Eastward or Northward over the greater part of England, the west of France, the Iberian Peninsula, and Italy. Variable or Southerly over the east of France and also in Algeria. No important change occurring in western Europe later. Winds over Scandinavia and the Gulf of Bothnia falling light.

Barometer highest, 30·2 ins. and upwards, in a long but somewhat narrow band extending from the North Sea across Denmark and north Germany to the west and south of Russia, and also in two smaller areas lying respectively over central England and to the south-westward of Ireland. Lowest, 29·1 ins. and less, in a large depression lying over the Kola Peninsula and the White Sea; 29·7 ins. and less, in a shallow system over the south of Italy. Gradients rather steep over northern Europe. Depression in far north moving eastwards later and slight fresh fall taking place during day over western countries.

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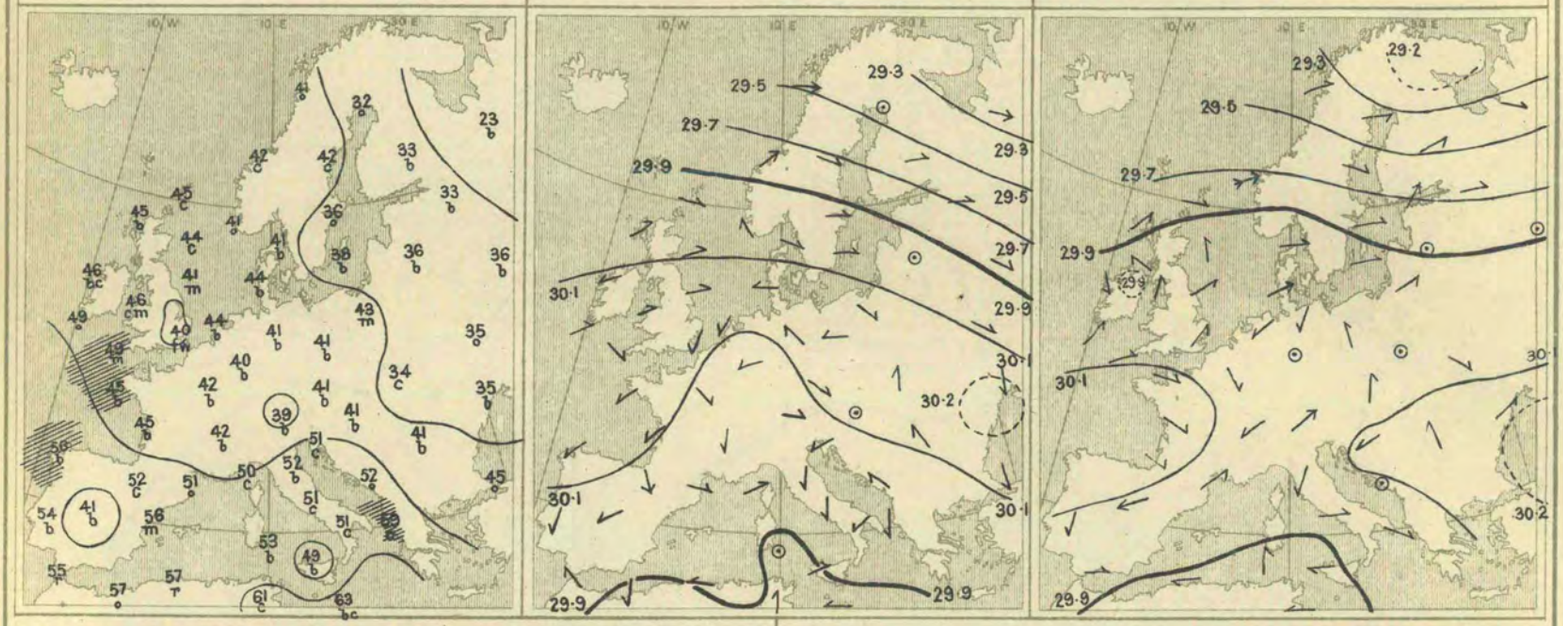
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 5th April.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.



Weather dull over northern Europe, and at some of the Mediterranean stations, rainy in Algeria; fine generally elsewhere, but less settled in our Islands than of late. Rain falling subsequently, but in small quantities, on our western and northern coasts generally, as well as at several of the Scandinavian stations, and sky beginning to assume an unsettled appearance even as far south as London.

Temperature risen a little over Ireland and France, as well as in some parts of Germany; ranging between 50° and 63°, at 8 a.m., on the shores of the Mediterranean and Spain, and between 40° and 50° over France and the western parts of the British Isles; much lower elsewhere, as low as 23° at Archangel, 32° at Haparanda and Loughborough, 33° at York and several of the Finnish stations. Rising later to 60° and more in some parts of England, France and Spain, to nearly 70° in Italy and to upwards of 70° over Algeria.

Wind Westerly all over northern Europe and Scotland, strong on the Norwegian coast, light elsewhere; mainly Northerly (North-West to North-East) at the more southern stations, but varying greatly, and of little force. Backing to South-Westward or Southward at many of our own stations later, and becoming Southerly, very light, over Germany.

Barometer highest, 30·1 ins. and more, over the Bay of Biscay and Ireland, and in a band extending thence in an easterly and south-easterly direction, across England, the North Sea, and Germany to Austria-Hungary and southern Russia. Lowest, 29·4 ins. to 29·3 ins. and less, over northern Europe, and to 29·8 ins. and less over southern parts of the Mediterranean. Falling in most places later and small depression appearing over north of Ireland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the first part of this week anti-cyclonic conditions prevailed over the British Islands and north-western Europe, while a depression of considerable size was observed travelling from Sweden across the Baltic to Russia. This disturbance soon passed off, and the anti-cyclone spread from the British Islands to central Europe. Fine dry bright weather was prevalent almost everywhere, the only portions of our area in which showers continued being the extreme northern and extreme southern countries. The night temperatures were low at inland stations—the frosts on the grass being very sharp at times even over England; the day temperatures were somewhat high and the air was very dry.

After Friday the anti-cyclone began to break up; a large depression appeared in the extreme north, and at the close of the week smaller disturbances were advancing over the northern parts of the British Islands from the westward, bringing with them showery changeable weather and varying winds, which were extending steadily over the north-western parts of Europe on Saturday night.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 15.] *Third Series.*

WEEK ENDING SATURDAY, 12TH APRIL, 1890.

[*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 86.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
	°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.														
0. SCOTLAND, NORTH	54	26	44·9	33·6	39·1	4 below.	8	−11	30	+10	191	+55	388	− 62
1. SCOTLAND, EAST	58	25	47·3	34·4	40·7	2 below.	16	− 9	28	+ 9	249	+54	431	− 68
2. ENGLAND, N.E.	58	25	47·3	35·1	41·0	3 below.	15	−10	26	+10	233	+34	354	− 91
3. ENGLAND, EAST	63	27	50·3	35·1	42·4	4 below.	32	− 3	19	+ 3	272	+ 4	440	− 27
4. MIDLAND COUNTIES	61	26	49·9	35·3	42·3	4 below.	30	− 7	19	+ 2	300*	+ 7	445	− 14
5. ENGLAND, SOUTH	59	29	50·2	37·4	43·5	4 below.	30	− 9	13	+ 2	328	+14	304	− 46
Principal Grazing, &c., Districts.														
6. SCOTLAND, WEST	57	24	49·5	35·8	42·4	3 below.	29	− 1	17	+ 4	263	+38	301	− 66
7. ENGLAND, N.W.	61	27	48·2	37·6	42·6	3 below.	23	− 8	12	0	258	+28	286	− 70
8. ENGLAND, S.W.	58	27	50·0	38·8	44·1	3 below.	28	− 8	9	+ 1	358	+ 8	244	+ 26
9. IRELAND, NORTH	56	27	50·1	37·8	43·7	2 below.	30	− 3	12	0	298	+15	284	− 40
10. IRELAND, SOUTH	60	29	52·2	40·2	45·9	1 below.	35	− 4	5	− 4	401	+14	223	0
— CHANNEL ISLANDS	53	35	50·2	42·4	46·1	2 below.	29	−10	0	− 2	470	+67	71	− 21

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 86.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.													
0. SCOTLAND, NORTH	5	12	6 more.	75	+ 6	16·6	− 0·7	24	25	220	−48	22	− 4
1. SCOTLAND, EAST	4	3	2 less.	59	+ 6	8·5	− 0·3	35	37	286	−21	28	− 1
2. ENGLAND, N.E.	5	3	2 less.	53	+ 1	5·6	− 1·3	27	29	259	+ 9	24	+ 1
3. ENGLAND, EAST	6	4	0 (average.)	58	+ 6	6·1	− 0·2	29	31	327	− 2	31	0
4. MIDLAND COUNTIES	5	3	1 less.	51	+ 1	5·6	− 2·1	33	35	295	+ 7	28	+ 2
5. ENGLAND, SOUTH	5	3	2 less.	51	+ 2	6·1	− 1·8	26	28	309*	+ 5	29	+ 1
Principal Grazing, &c., Districts.													
6. SCOTLAND, WEST	3	6	1 less.	64	+ 3	14·4	− 2·2	51	54	278	+ 6	27	+ 2
7. ENGLAND, N.W.	4	6	2 more.	61	+ 6	9·2	− 0·2	36	38	279	+17	26	+ 2
8. ENGLAND, S.W.	5	6	1 less.	59	+ 1	9·7	− 3·4	37	40	362	+32	33	+ 3
9. IRELAND, NORTH	5	6	0 (average.)	68	+ 2	9·4	− 0·7	45	48	304	+12	29	+ 2
10. IRELAND, SOUTH	4	4	3 less.	64	+ 1	13·2	+ 0·8	46	50	354	+22	32	+ 1
— CHANNEL ISLANDS	5	3	2 less.	60	− 4	8·5	− 1·7	43	46	423	+18	39	+ 3

General Remarks.

Weather was generally cloudy and unsettled during the greater part of the week, with frequent showers of cold rain, sleet, and snow. Thunder and lightning accompanied the showers in many parts of England on the 8th. By the close of the period the conditions had become drier and finer.

Temperature has been below the mean in all districts, the deficit ranging from 1° to 3° in the "Grazing" districts and from 2° to 4° in "Wheat-producing" districts. The highest of the maxima were recorded on the 6th or 7th, when they varied from 63° in "England E." and 61° in the "Midland Counties" and "England N.W." to 54° in "Scotland N." and 53° in the "Channel Islands." During the latter half of the week the daily maxima were nearly all less than 50°. The lowest of the minima, which were registered either on the 11th or 12th, ranged from 24° in "Scotland W." and 25° in "Scotland E." and "England N.E." to 29° in "England S." and "Ireland S." and to 35° in the "Channel Isles."

Rainfall has been more than the mean in "Scotland N." and "England N.W.," and about equal to it in "England E." and "Ireland N.;" in all other districts, however, the fall has been less than the normal.

Bright Sunshine shows a considerable decrease on that recorded last week, but has still been fairly prevalent in the more western parts of the Kingdom. The percentage of the possible amount of duration ranged from 25 in "Scotland N." and 28 in "England S." to 48 in "Ireland N.," 50 in "Ireland S.," and 54 in "Scotland W."

Barometer and Wind.—At the commencement of the week the distribution of pressure over our Islands was of a westerly to south-westerly type, the gradients being slight and irregular. On Monday, however, a depression was shown to the eastward of Scotland, and this system moving eastwards and growing much deeper, produced decided gradients for Northerly to North-Westerly winds over the United Kingdom. In Scotland strong Northerly gales were experienced on Tuesday. By the end of the week pressure was giving way in Ireland, and the wind had shifted to the Southward at all our western stations, while it remained Northerly in the east.

* This value has been altered owing to the receipt of further information.

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36 350 4 | 90 607

III. – DATA from which the SUMMARY on page 85 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head Ⓢ	48	30	43·1	33·7	38·3	—3·5	3	29	6	0·72	+0·20	*	*
	Stornoway Ⓢ	49	31	45·4	34·9	40·0	—3·0	10	26	4	1·88	+1·27	30·9	32
	Wick Ⓢ	53	26	45·0	33·1	38·9	—3·3	8	32	5	0·92	+0·54	*	*
	Lairg Ⓢ	54	27	44·8	32·2	38·2	—3·6	8	34	6	0·89	+0·38	*	*
	Glencarron Ⓢ	50	28	44·9	33·4	38·9	—3·7	8	30	4	1·92†	+0·92	?	?
	Fort Augustus Ⓢ	52	26	46·4	34·3	40·1	—3·7	12	28	4	0·81†	?	16·3	17
1. SCOTLAND, E.	Nairn Ⓢ	55	33	46·9	35·6	41·1	—2·4	14	25	5	0·40	+0·10	*	*
	Aberdeen Ⓢ	57	30	46·4	35·4	40·6	—2·2	12	24	6	0·41	—0·10	41·5	44
	Braemar Ⓐ Ⓢ	51	26	44·0	32·0	37·7	—2·7	6	34	4	0·50	—0·05	33·2‡	35‡
	Ochtertyre Ⓢ	58	25	51·6	31·7	41·2	—2·5	27	40	2	0·06	—0·48	*	*
	Leith Ⓢ	57	33	51·1	37·3	44·0	—0·9	34	13	3	0·07	—0·31	*	*
	Marchmont Ⓢ	56	29	45·7	34·6	39·8	—3·4	10	26	4	0·17	—0·41	30·5	32
2 ENGLAND, N.E.	Alnwick Castle	55	25	43·9	34·0	38·7	—4·8	5	28	3	0·16	—0·37	*	*
	Durham	58	28	48·2	33·5	40·5	—3·2	17	32	4	0·08	—0·43	18·8	20
	Shields	57	30	47·7	35·9	41·6	—2·7	16	24	5	0·20	—0·24	*	*
	Scarborough Ⓐ	55	33	47·1	36·4	41·5	—2·8	14	21	7	0·56	+0·11	32·1‡	34‡
	York	58	28	49·7	33·6	41·4	—4·2	22	33	4	0·47	+0·05	30·4	32
	Spurn Head	54	34	47·3	37·3	42·2	—2·8	21	13	7	0·46	?	*	*
3. ENGLAND, E.	Hillington Ⓐ	58	28	50·2	34·4	41·9	—3·0	23	30	5	0·16	—0·26	27·0	29
	Yarmouth	56	33	47·6	36·7	42·0	—3·4	16	15	7	0·63	+0·22	*	*
	Geldeston	57	29	49·8	33·9	41·5	—5·1	22	31	7	0·52	+0·17	26·5	28
	Cambridge	59	27	53·4	34·4	43·6	—3·0	43	21	5	0·27	—0·12	32·2	35
	Rothamsted	63	30	50·9	35·3	42·7	—3·4	33	19	5	0·35	—0·15	*	*
	Ingatestone	56	29	49·8	35·9	42·5	—4·1	29	17	4	0·23	—0·12	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	60	27	51·3	35·6	43·1	—2·2	35	18	4	0·18	—0·22	30·8‡	33‡
	Loughborough	61	31	50·6	35·9	43·0	—3·3	33	17	3	0·31	—0·09	32·6‡	35‡
	Cheadle Ⓐ	58	30	47·4	34·4	40·6	—3·8	15	28	7	0·54	+0·02	*	*
	Churchstoke Ⓐ	58	26	49·1	34·2	41·3	—4·6	20	30	5	0·61	+0·21	35·3	38
	Hereford Ⓐ	60	27	51·6	36·0	43·4	—3·3	35	17	4	0·12	—0·28	*	*
	Cirencester	57	27	45·3	35·0	41·8	—4·1	20	27	4	0·27	—0·24	33·1	36
	Oxford	56	31	50·3	36·0	42·9	—4·5	32	17	5	0·32	—0·09	31·9	34
5. ENGLAND, S.	London	56	33	50·6	38·3	44·3	—3·5	32	10	5	0·33	—0·09	20·2‡	22‡
	Strathfield Turgiss Ⓐ	58	29	52·0	36·3	43·8	—2·8	37	16	5	0·30	—0·13	*	*
	Dungeness	54	29	49·0	36·3	42·5	—5·3	27	16	4	0·12	—0·30	26·4‡	28‡
	Hastings (St. Leonards)	54	33	48·1	37·3	42·4	—4·6	23	13	5	0·34	—0·14	26·1	28
	Southampton	59	33	52·4	37·9	44·8	—2·6	37	11	6	0·12	—0·36	37·3	40
	Hurst Castle	54	34	50·0	39·0	44·3	—3·6	29	8	6	0·19	—0·24	*	*
	Stowell Ⓐ	53	29	49·4	36·4	42·6	—3·4	28	16	4	0·42	?	19·3‡	21‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	57	31	50·8	35·3	42·7	—1·6	33	19	3	1·08†	+0·13	*	*
	Glasgow	53	32	48·6	36·3	42·2	—2·5	25	16	1	0·27	—0·26	36·0	38
	Ardrossan	53	34	50·6	37·3	43·6	—1·2	31	13	3	0·35	—0·18	*	*
	Glenlee Ⓢ	55	24	49·0	33·3	40·8	—3·8	20	33	5	0·60	—0·10	*	*
	Douglas (Isle of Man)	53	30	48·7	37·0	42·6	—3·5	25	14	5	0·69	+0·13	65·2	69
7. ENGLAND, N.W.	Newton Reigny	55	27	47·9	33·4	40·3	—3·7	17	32	4	0·54	+0·11	25·3	27
	Stonyhurst	51	29	47·1	35·7	41·1	—4·4	14	24	5	0·87	+0·30	30·8	33
	Blackpool Ⓐ	50	32	47·9	38·8	43·1	—3·6	21	9	5	0·58	+0·18	41·2	44
	Manchester	61	30	49·1	36·0	42·2	—2·6	27	17	5	0·59	+0·09	*	*
	Liverpool Obsy. (Bidston)	51	35	48·3	39·0	43·4	—2·9	22	8	5	0·61	+0·24	*	*
	Llandudno Ⓐ	54	32	48·3	39·2	43·5	—4·1	22	8	3	0·58	+0·18	45·7	49
	Holyhead	56	39	49·1	41·1	44·9	—2·6	24	3	4	0·35	—0·07	*	*
8. ENGLAND, S.W.	Llandovery	54	27	51·1	35·4	42·9	—3·6	34	18	4	0·98	+0·31	*	*
	Pembroke	51	35	48·1	40·7	44·2	—3·6	21	4	4	0·30	—0·20	43·3	47
	Arlington (N. Devon)	52	31	46·3	37·7	41·8	—5·0	12	17	5	0·95	+0·24	*	*
	Cullompton Ⓐ	58	27	51·2	37·2	43·9	—3·4	33	13	7	0·62	+0·01	31·1	33
	Falmouth	54	35	49·8	41·3	45·4	—2·6	27	2	5	0·43	—0·32	38·2	41
	Plymouth	56	33	52·8	40·1	46·2	—2·3	37	5	5	0·36	—0·24	34·4	37
	Prawle Point	54	34	50·4	39·3	44·6	—2·9	30	8	5	0·51	?	*	*
9. IRELAND, N.	Malin Head	52	36	47·1	39·9	43·3	—1·5	18	6	6	0·46	?	*	*
	Londonderry	54	34	50·8	37·6	43·9	—1·7	32	12	6	0·78	+0·22	*	*
	Mullaghmore	53	39	49·7	41·0	45·1	—1·7	26	3	4	0·75	+0·26	*	*
	Belmullet	51	37	49·9	41·3	45·4	—1·9	27	2	3	0·72	?	*	*
	Markree Castle	56	30	50·2	35·6	42·3	—3·3	31	18	4	0·74	+0·16	38·7	41
	Brookeborough	53	27	50·3	32·6	41·0	—4·5	23	36	6	0·42	?	*	*
	Armagh	54	30	51·5	34·9	42·8	—3·1	35	20	4	0·44	—0·07	50·8	54
	Donaghadee	55	40	50·1	42·6	46·2	—0·3	29	0	5	0·16	—0·29	*	*
	Edgeworthstown	55	29	51·1	35·1	42·7	—2·6	34	19	5	0·46	—0·12	*	*
10. IRELAND, S.	Dublin	56	33	52·1	38·9	45·2	—1·8	35	9	4	0·30	—0·18	56·5	61
	Parsonstown	59	30	52·0	35·9	43·6	—2·8	37	17	4	0·21	—0·29	44·9	48
	Kilkenny	60	29	52·0	37·9	44·6	—1·4	35	11	4	0·18	—0·34	*	*
	Waterford	56	32	53·4	39·0	45·9	—1·7	40	8	3	0·20	—0·47	*	*
	Roche's Point	59	39	53·1	42·7	47·7	0·0	40	0	3	0·33	—0·47	*	*
	Valencia	53	40	52·1	43·9	47·8	—0·3	41	0	6	0·77	—0·18	37·7	41
	Killarney	56	39	51·5	42·9	47·0	+0·1	35	0	4	0·57	?	*	*
	Foynes	53	36	51·1	40·4	45·5	—1·1	31	4	4	0·39	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	40	49·9	43·4	46·5	—2·4	32	0	5	0·18	—0·40	*	*
	Jersey	52	35	50·4	41·3	45·6	—2·3	28	2	5	0·49	0·00	42·9	46

Stations marked Ⓐ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

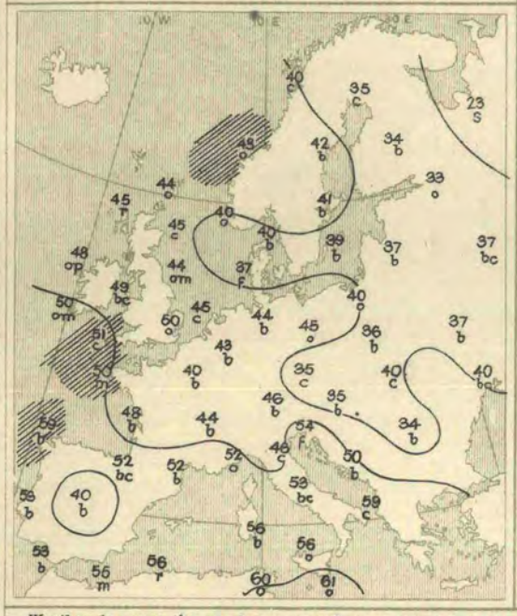
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

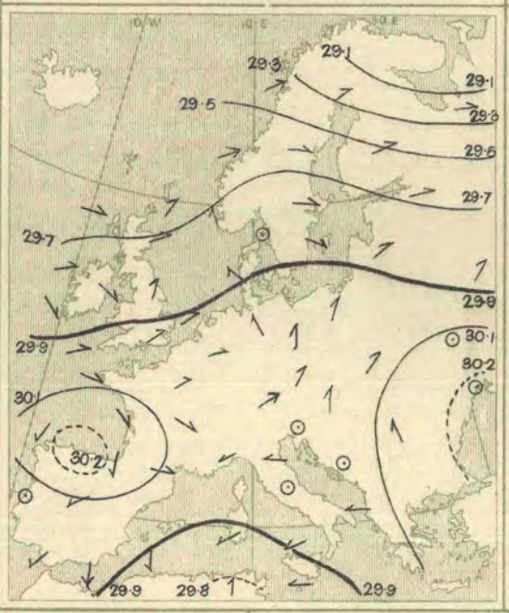
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 6th April.

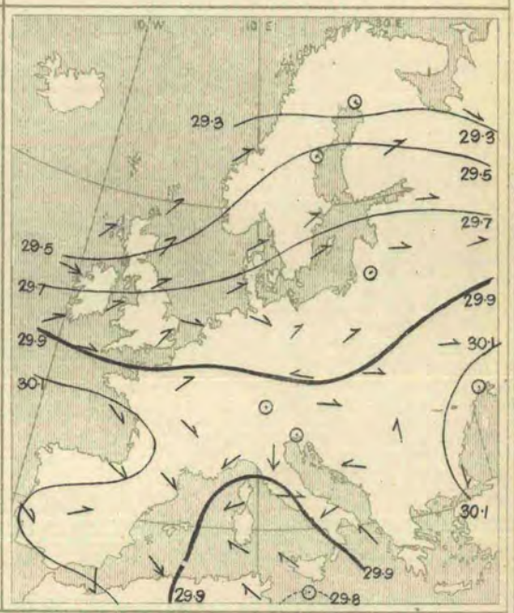
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of Europe, but dull in the southern and extreme northern parts of the United Kingdom, as well as in the west of Norway, Algeria, and the south of Italy. Fog and rain prevailing in the south-west of our Islands; rain also falling in the Hebrides and at Oran (Algeria). Showers falling during day in many parts of western Europe, and considerable amounts of rain at some of the Algerian stations.

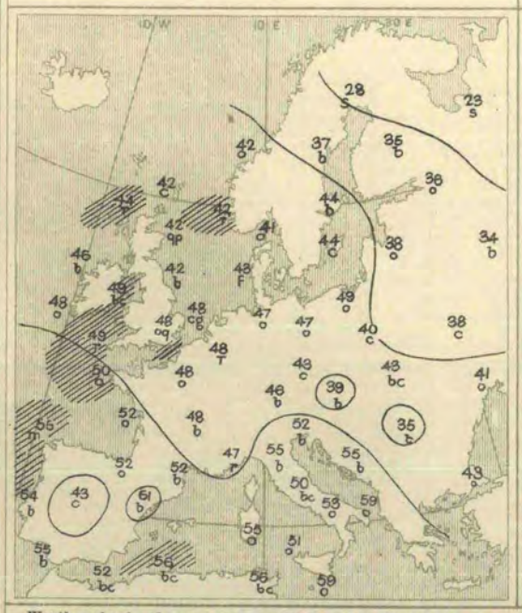
Temperature highest, 55° and upwards, at most of the Mediterranean stations (Malta and Sfax 61°, Tunis 60°, Brindisi and La Calle 59°, and Cagliari, Palermo, and Algiers 56°), 50° or a little above, on the south-west coasts of our Islands. Lowest, 23° at Archangel, 33° at St. Petersburg, 34° at Kuopio, Le Mans, and Hermanstadt, and 35° at Haparanda, Prague, and Vienna. Daily maxima below 60° in nearly all parts of our Islands and below 50° at some of our southern and extreme northern stations, but thermometer exceeding 60° in France and reaching 70° or upwards in Algeria.

Wind light or moderate from the South-Westward over the greater part of our Islands, as well as in Germany and Austria; strong from the same quarter or from West over the northern parts of Scandinavia, light from West over northern Russia, and from South-East in Denmark. Variable in Italy and Algeria, North-Easterly in Spain, North-Westerly or Northerly over the Bay of Biscay. Subsequently increasing to a strong breeze from the South-Westward in the north-west of the British Islands.

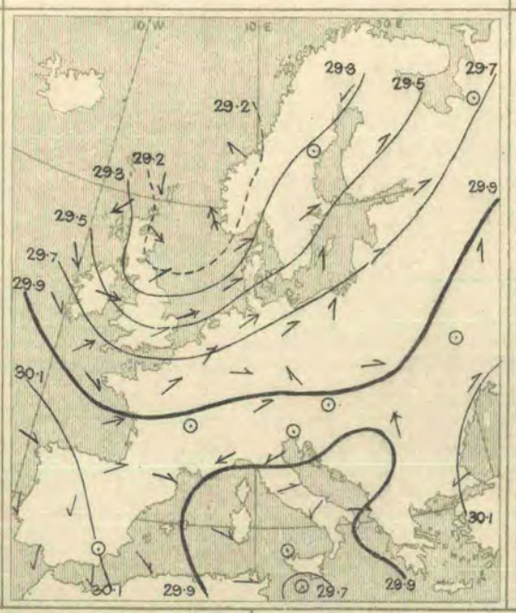
Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over the north of Spain, and also in another system lying over the Black Sea and the south of Russia. Lowest, 29·2 ins. and less, in a large depression lying over Lapland and the White Sea; very shallow secondary disturbances travelling eastwards across our Islands. Larger depression beginning to approach our extreme north-west coasts in evening, and barometer falling quickly in the western and northern parts of the Kingdom.

Monday, 7th April.

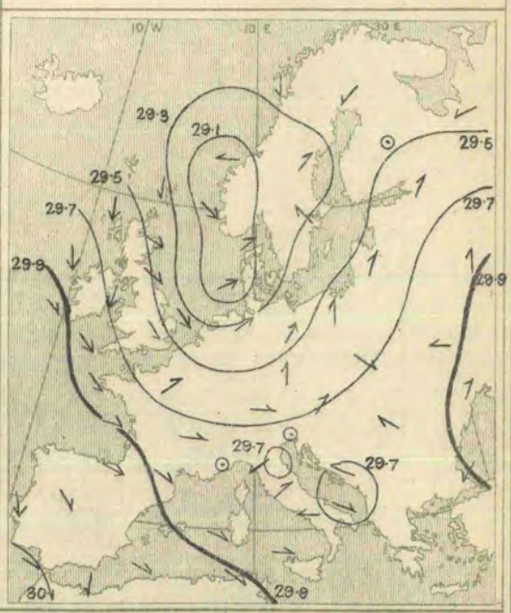
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy, showery, and unsettled over the British Islands and their neighbourhood, including the North Sea and the north and west of France; fine generally elsewhere, but cloudy over north Germany. Showers of rain, hail, or wet snow falling very generally over western and north-western Europe later—heavy in the north of Scotland and at Skudesnaes. Heavy rain in many parts of Italy also.

Temperature falling over the United Kingdom, rising a little to the eastward of the North Sea. Morning readings above 50° on the Mediterranean and Atlantic coasts of France and Spain, lower elsewhere, but above 40° throughout our Islands; below 40° over Russia and Sweden only, and as low as 23° at Archangel and 28° at Haparanda. Rising during day to between 50° and 59° over the United Kingdom and to between 60° and 65° in many parts of France, and to nearly 70° at Rome and Palermo; 70° just touched at Biskra (Algeria).

Wind moderate Southerly and South-Easterly over the Baltic and Scandinavia, South-Westerly in Denmark and the Netherlands, Westerly and South-Westerly (rather strong) over England, and North-Westerly to Northerly (strong and squally) in Ireland and Scotland; very light and variable over eastern, central, and southern Europe. North-Westerly wind spreading all over western Europe later and blowing very strongly on the north-east coast of Scotland, North-Easterly gale setting in over the northern parts of Scandinavia, and South-Westerly to Westerly winds (strong to a gale) over the southern and eastern parts of the Mediterranean.

Barometer highest, 30·1 ins. and more to 30·0 ins., over Spain and the south-west of France, as well as over southern and south-eastern Russia. Lowest, 29·2 ins. and less, in a complex depression lying over the northern parts of the North Sea, and 29·8 ins. and less in a shallow complex system over the eastern and south-eastern parts of the Mediterranean. Northern depression moving eastwards later and growing deeper but less complex; Mediterranean depression also growing deeper and moving north-eastwards to Gulf of Genoa.

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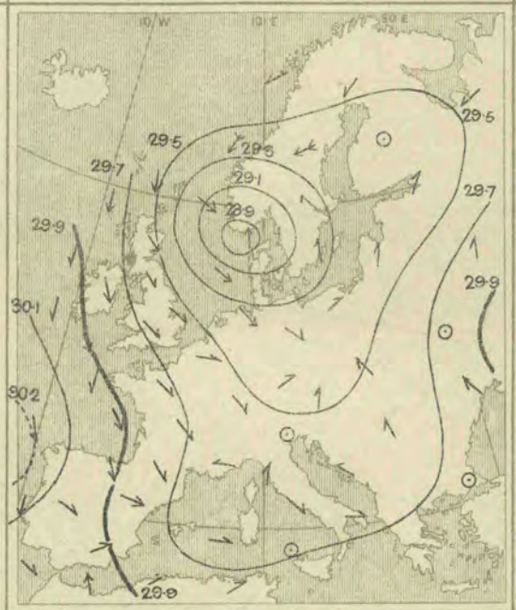
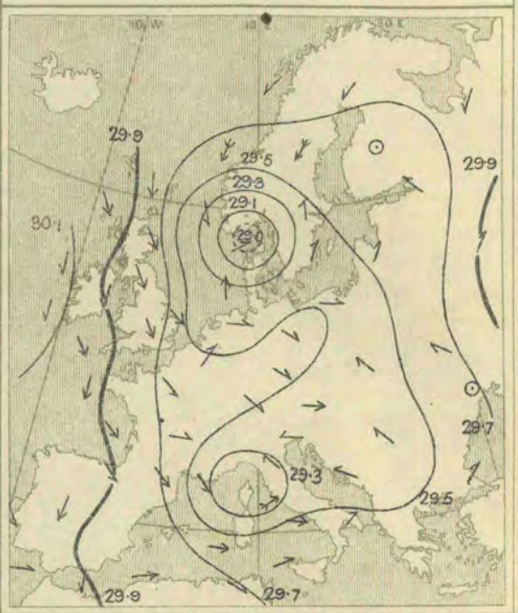
Tuesday, 8th April.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather changeable and unsettled over nearly the whole of Europe. Cold showers falling in many parts of the United Kingdom, steady rain in Germany, and snow at Uleaborg and Hernösand. Squalls of hail, sleet, or cold rain passing over nearly the whole of western Europe during day and thunder and lightning occurring at many of the English stations; much rain on several of the Mediterranean coasts, but weather improving somewhat at our western stations later.

Temperature highest, 55° to 60°, over the Mediterranean, the Adriatic, and the coasts of the Iberian Peninsula (Oporto 60°, Barcelona and Brindisi 59°, Trieste and Algiers 58°). Lowest, 20° at Haparanda, 22° at Archangel, 28° at Bodö and Uleaborg, 32° at Hernösand, 37° at Christiansund and Sumburgh Head, and 38° at Nairn; below 45° in all the more northern and eastern parts of the United Kingdom. Daily maxima very little above 50° in any part of western Europe and scarcely exceeding 60° even over Italy, but exceeding 70° at several Algerian stations.

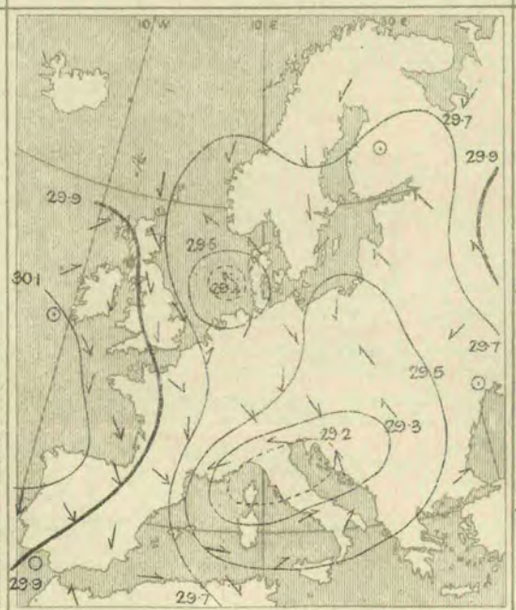
Wind Northerly in the extreme north and west of our Islands, North-Westerly in nearly all other parts of western Europe; strong to a gale over Scotland, the North Sea, and east of England. Light from the Southward over Austria, Russia, and the Baltic, Easterly or North-Easterly in Scandinavia, with a gale at Hernösand and Christiansund; light from the Westward or North-Westward at most of the Italian stations and from the Southward in Algeria. Subsequently increasing to a strong gale (in squalls) on the east coast of Scotland.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying off the north-west of Spain, 30·0 ins. and upwards, in another area lying over the south of Russia. Lowest, 28·9 ins. and less, in a well-marked depression lying over the Skager Rack, 29·5 ins. and less in a shallower system lying to the westward of Corsica and Sardinia. Gradients rather steep over Scandinavia, the North Sea, and the north of our Islands. Small secondary disturbances travelling southwards across Great Britain later; depression over Skager Rack beginning to fill up, but that over Gulf of Genoa growing much deeper.

Wednesday, 9th April.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather in morning fine and bright over Spain, the west of France, and at many of our western and southern stations, as well as over central Russia and the Baltic Provinces; cloudy and very unsettled elsewhere, with wet snow, hail, and cold rain showers on our north and north-east coasts, snow in the north of Russia, and rain over the northern parts of the Mediterranean, Italy, and the Adriatic. Cold showers later throughout our Islands, but with some bright intervals in most places. Heavy rain falling at some of the Austrian stations, largest amount being 1·7 ins. at Lesina.

Temperature fallen greatly in the south of France, risen over Austria and the south of Russia, changed irregularly elsewhere; exceeding 50° on the eastern, southern, and western shores of the Mediterranean, and on the Atlantic coasts of Spain and Portugal, lower elsewhere. Below 40° over Scotland and northern Europe, and as low as 19° at Haparanda, and 20° to 24° over Lapland and the extreme north of Russia. Rising to 50° and more over Ireland, France, and some of our southern stations later, as well as at Berlin, but not exceeding 45° on our most northern and north-eastern coasts generally.

Wind Northerly and North-Westerly (moderate to strong) over nearly the whole of western Europe and Germany, but Southerly and South-Easterly in Holstein, Denmark, and the south of Norway, Easterly to Northerly over Lapland and Sweden. Well-marked cyclonic circulation over southern Europe and the Mediterranean, but wind not strong except at Perpignan and Barcelona. Direction varying a good deal over our Islands later, but force moderate, except over Donegal Bay, where a North-Westerly gale prevailed temporarily. No important change occurring at the Continental stations.

Barometer highest, (1) 30·0 ins. to 30·1 ins. and more, over Ireland, the west and north of Spain, and adjacent parts of Atlantic; (2) 29·8 ins. to 29·9 ins. and more, over Lapland and Russia. Lowest, 29·2 ins. and less, in a deep elongated depression lying over the northern parts of the Mediterranean, Italy, and the Adriatic, and 29·4 ins. and less in another disturbance near Fanö, and which was filling up. Both depressions became shallower later, and new small disturbance travelling quickly over our Islands from the north-westward.

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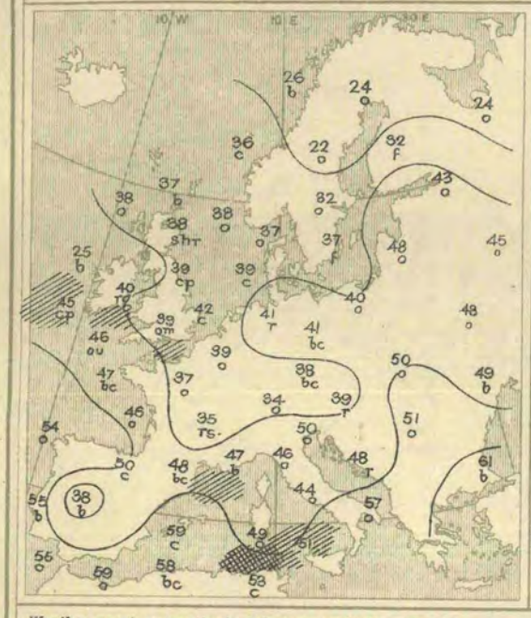
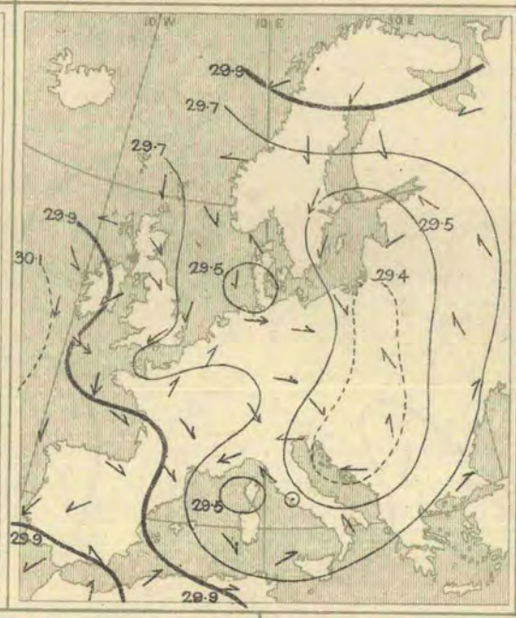
Thursday, 10th April.

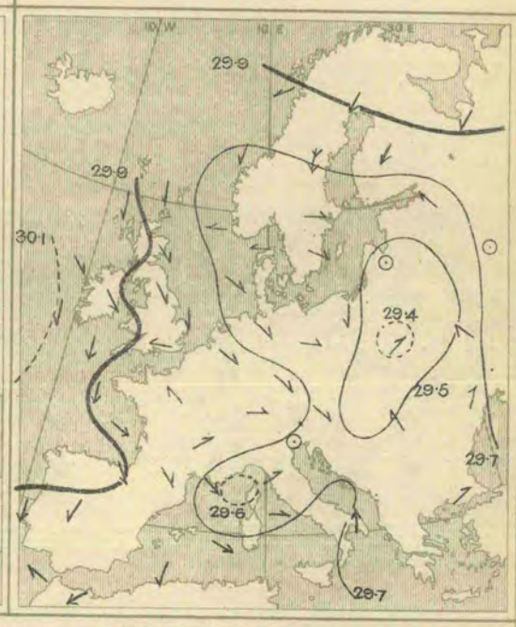
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather varying greatly in different localities. Fine in some parts of Germany, as well as in Spain and the south of France; showery in the United Kingdom, with hail and sleet at some of our eastern stations; dull in Sweden, Denmark, and Russia, and also in Italy, with rain in many places and fog over the Baltic. Cold showers falling during day in many parts of western Europe, but sky clearing in Denmark and also in Italy.

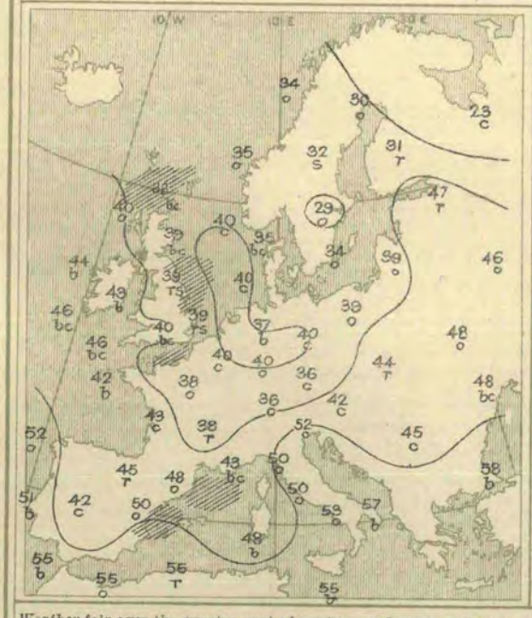
Temperature highest, 55° and upwards, at some of the Mediterranean stations, and also on the coasts of the Iberian Peninsula (Palma 59°, Oporto and Algiers 58°, Brindisi 57°). Lowest, 22° at Hernösand, 24° at Archangel and Haparanda, 25° at Uleaborg, 26° at Bodö, 32° at Kuopio and Stockholm, and 34° at Faerder; below 40° in many parts of western, northern, and central Europe. Daily maxima below 50° in nearly all parts of the United Kingdom, but thermometer rising above 60° in most of the southern countries and above 65° over central Algeria and the south of Italy.

Wind North-Westerly or Northerly over our Islands, France, and the North Sea, light or moderate in force generally, but strong to a gale at the mouths of the Bristol and English Channels. Northerly or North-Easterly over Scandinavia and northern Russia, as well as in Spain, variable in Italy, Southerly over eastern Austria and the south of Russia, North-Westerly in eastern Germany. Gale at mouth of Channel subsiding later; no important change occurring elsewhere.

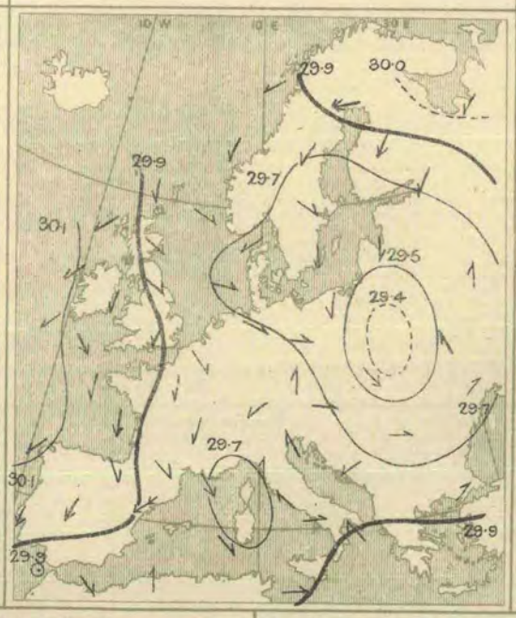
Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying to the westward of our Islands; high, 29·9 ins. and upwards, over the north of Scandinavia. Lowest, 29·4 ins. and less, in an elongated depression extending from western Russia to the Adriatic, 29·5 ins. and less in a smaller system lying over Denmark, 29·8 ins. and less in another area lying over Morocco. Barometer rising over western Europe during day, but no important change occurring in distribution of pressure.

Friday, 11th April.

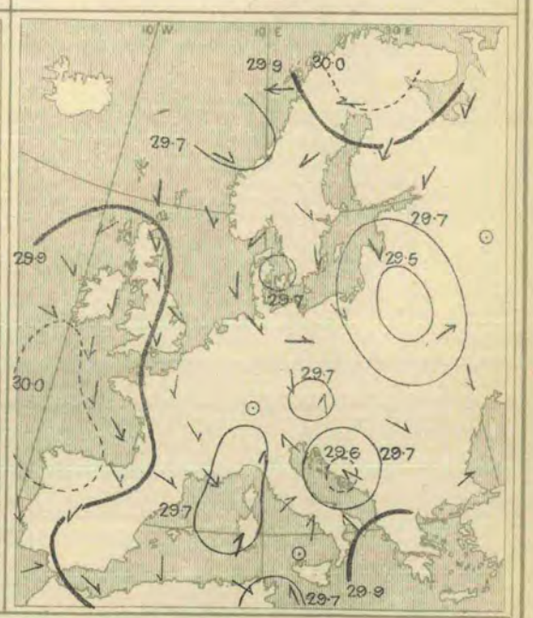
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair over the greater part of western and central Europe, but showers of snow or sleet reported on the north and east coasts of Great Britain, and showers of rain at Malin Head and Pembroke. Dull in most other parts of the Continent, with fog over the Gulf of Finland and rain at several of the Russian stations, as well as in central Algeria. No important change occurring later over western Europe, but rain falling in many parts of Italy—heavily (0·6 in.) at Leghorn.

Temperature highest, 50° and upwards, over the Mediterranean and on the coasts of the Iberian Peninsula (Palma and Brindisi 57°, San Fernando, Oran, Algiers, and Malta 58°, and Oporto and Leghorn 54°). Lowest, 23° at Archangel, 29° at Uleaborg and Stockholm, 30° at Haparanda, 31° at Kuopio, 32° at Hernösand and Faerder, and 34° at Wisby and Munster; below 40° in many parts of the United Kingdom. Daily maxima over our Islands mostly below 50°, with frost at night over the inland parts of Great Britain; thermometer on the grass falling to 22° in London.

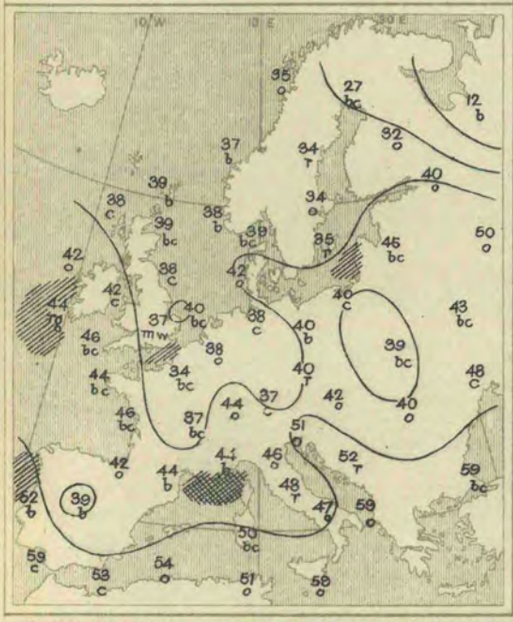
Wind Northerly (North-West to North-East) in all the more western and northern countries, light or moderate in force generally, but fresh or strong in some parts of France and Spain, with a gale at Barcelona. Light from the South-Eastward or Southward over Italy and central and southern Russia. Subsequently shifting to the North-Westward in the north of Ireland and to Westward or South-Westward in the south of that country. North-Westerly breezes also setting in over Algeria.

Barometer highest, 30·1 ins. and upwards, in a large area lying to the westward of Ireland and north-westward of Spain, 30·0 ins. and upwards in the neighbourhood of the White Sea, 29·9 ins. and upwards over the eastern parts of the Mediterranean. Lowest, 29·4 ins. and less, in a depression lying over western Russia, 29·6 ins. and less in a small disturbance lying over central Denmark, 29·7 ins. and less in a third system lying over Corsica, Sardinia, and the Gulf of Genoa. Fall taking place in Ireland later and depression beginning to approach our extreme western coasts. Disturbance over western Russia moving slowly northwards.

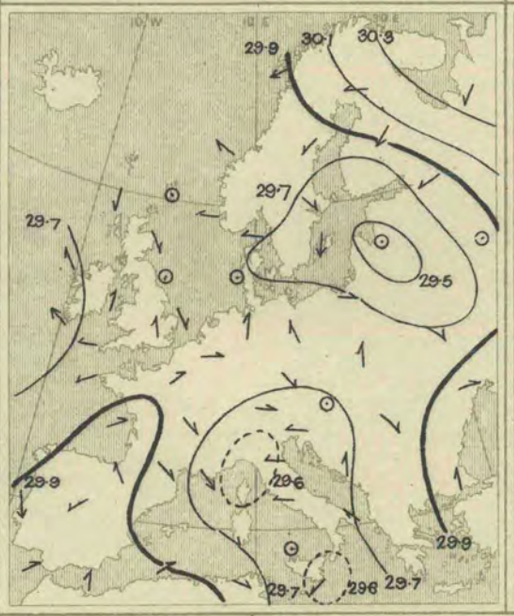
Judd & Co Lth. 73 & 75, Farringdon Rd & Doctors' Commons.

Saturday, 12th April.

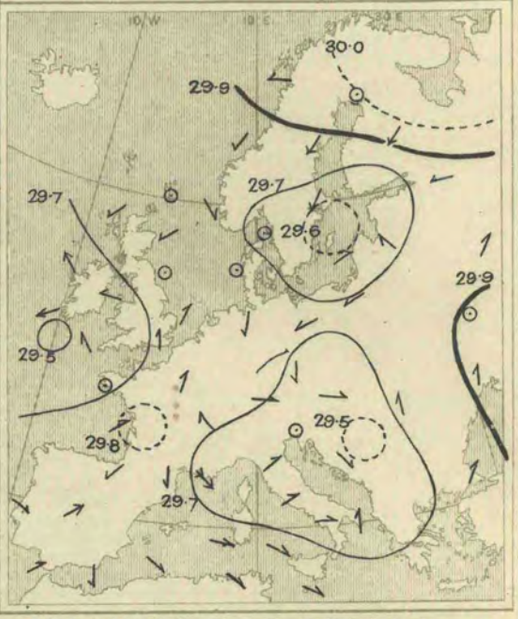
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair over the greater part of western Europe, but dull in the west of Ireland, with rain at Valencia. Cloudy or overcast over Russia, the Baltic, and central Europe, as well as in Italy and Algeria, with rain in many places. Rain falling later at many of our western stations, and snow showers in the north and east of Great Britain.

Temperature highest, 50° to 60°, over the Mediterranean and on the coasts of the Iberian Peninsula (San Fernando, Brindisi, and Malta 59°, Sfax 56°, and Algiers 54°). Lowest, 12° at Archangel, 27° at Haparanda and Uleaborg, 32° at Kuopio, and 34° at Hernösand, Stockholm, and Paris; below 40° in most parts of western, northern, and central Europe. Daily maxima below 60° in all localities, excepting Spain, Algeria, and the south of Italy, and below 50° in most parts of the United Kingdom.

Wind light and variable over Great Britain, but South-Easterly or Southerly in Ireland; strong in force at Valencia. Moderate from East or North-East over Scandinavia and the north of Russia; Westerly over the southern shores of the Baltic, and also over western Germany—chiefly South-Easterly in Italy, but North-Westerly in the south of France and Westerly in Algeria. Subsequently backing to the North-Eastward at Valencia.

Barometer highest, 30·3 ins. and upwards, over the extreme north of Russia, 30·0 ins. and upwards over central Spain. Lowest, 29·5 ins. and less, in a depression lying over the Baltic Provinces; low, 29·6 ins. and less, in three other systems lying respectively to the south-westward of Ireland, over the Gulf of Genoa and northern Italy, and off the south of Italy. Depression off south-west of Ireland subsequently moving slowly in a south-easterly direction towards the Bay of Biscay.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week pressure was highest, 30·0 ins. to 30·2 ins. and more, in two anti-cyclones—one lying over southern Russia and the Black Sea, the other over the Bay of Biscay and northern parts of the Iberian Peninsula. They were united by a broad column, which lay over France, Germany, Poland, and Austria. Over the northern and north-western parts of our area the barometer was falling, and early on Monday a shallow depression was found between the Scotch and the Norwegian coasts. This, as it moved eastwards, grew much deeper, while it also spread southwards, and uniting with other disturbances, which appeared over southern and central Europe, formed a very complex low-pressure system covering nearly the whole of Europe, and remaining in force till the end of the week, when its intensity was decreasing. Northerly winds, strong to a gale in force, were felt over Scandinavia, the British Isles, and France, accompanied by frequent squalls of snow, sleet, hail, and cold rain, and by thunderstorms in many parts of England on the 8th. In Russia and Germany the wind was at first Southerly to Easterly, and less strong, but afterwards became variable. The weather was very much disturbed even over the Mediterranean and its shores, where heavy rains fell.

At the close of the week a new low-pressure system had appeared off the west of Ireland; the Northerly current gave way to winds from South-East and East on our western coasts, while the disturbances in the east began to fill up very slowly.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of each Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
March 29th - - - -	Ingatestone - - - -	63	36	54·8	42·4	48·4	+5·6	45	0	3	0·36	+0·06	*	*
April 5th - - - -	Dungeness - - - -	—	—	—	—	—	—	—	—	—	—	—	49·2	55

Judd & Co Lte Lith 73 & 75 Farringdon Rd & Doctors' Commons

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 16.] *Third Series.* WEEK ENDING SATURDAY, 19TH APRIL, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 92.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	57	22	49·0	34·7	41·6	2 below.	20	− 2	29	+14	211	+52	417	− 47
	1. SCOTLAND, EAST -	53	22	45·7	33·9	40·1	4 below.	13	−17	30	+16	262	+36	461	− 50
	2. ENGLAND, N.E. - -	52	30	44·7	37·5	41·0	5 below.	8	−22	17	+ 5	241	+12	371	− 86
	3. ENGLAND, EAST -	63	27	50·1	38·8	44·2	4 below.	29	−11	9	− 4	301	− 4	449	− 31
	4. MIDLAND COUNTIES	61	28	50·2	38·1	43·9	4 below.	30	−12	11	− 2	330	− 2	456	− 17
	5. ENGLAND, SOUTH -	65	28	53·3	42·0	47·4	1 below.	38	− 6	0	− 9	366	+ 9	303*	− 55
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	58	31	49·4	37·5	43·2	3 below.	27	− 8	13	+ 2	290	+30	314	− 62
	7. ENGLAND, N.W. -	56	30	48·6	38·3	43·2	4 below.	24	−12	10	0	282	+17	296	− 71
	8. ENGLAND, S.W. -	62	33	52·1	42·8	47·2	2 below.	36	− 5	0	− 6	394	+ 3	244	+ 19
	9. IRELAND, NORTH -	60	29	50·1	38·8	44·1	3 below.	28	−10	9	− 1	326	+ 4	293	− 39
	10. IRELAND, SOUTH -	61	31	52·8	41·4	46·8	2 below.	36	− 7	2	− 5	437	+ 7	225	− 3
	— CHANNEL ISLANDS -	63	40	53·7	45·3	49·3	0 (average)	51	+ 7	0	− 1	521	+75	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 92.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	1	1	4 less.	76	+ 3	16·7	− 1·0	47	48	267	−34	24	− 2
	1. SCOTLAND, EAST -	4	2	3 less.	63	+ 7	8·7	− 0·6	18	18	304	−36	27	− 3
	2. ENGLAND, N.E. - -	3	1	4 less.	56	+ 1	5·6*	− 1·7	9	9	268	− 6	23	0
	3. ENGLAND, EAST -	3	2	3 less.	61	+ 4	6·3	− 0·5	28	30	355	− 8	31	0
	4. MIDLAND COUNTIES-	3	3	2 less.	54	0	5·9	− 2·3	11	11	306	−12	26	− 1
	5. ENGLAND, SOUTH -	5	8	3 more.	56	+ 3	6·9	− 1·5	28	29	337	+ 1	29	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	2	1	4 less.	66	+ 1	14·5	− 2·6	23	24	301	− 2	26	0
	7. ENGLAND, N.W. - -	2	1	4 less.	63	+ 5	9·3	− 0·5	13	13	292	− 2	25	0
	8. ENGLAND, S.W. - -	4	5	2 less.	63	+ 2	10·2	− 3·5	21	21	383	+13	33	+ 2
	9. IRELAND, NORTH -	2	1	4 less.	70	0	9·5	− 1·1	12	12	316	−12	27	− 1
	10. IRELAND, SOUTH -	4	3	3 less.	68	+ 2	13·5	+ 0·4	19	20	373	+ 6	32	+ 1
	— CHANNEL ISLANDS -	6	5	0 (average.)	66	− 2	9·0	− 1·7	17	18	440	− 8	37	0

General Remarks.

Weather during this week has been fair and dry, except over the southern and south-western parts of the Kingdom, where, after the earlier days, it became dull and unsettled, with frequent falls of rain. In many parts of England and Ireland thunderstorms were experienced.

Temperature has continued below the mean in all districts, excepting the "Channel Islands," the deficit ranging from 1° in "England S." to 5° in "England N.E." The highest of the maxima, which were recorded either on the 14th or 15th, varied from 65° in "England S." and 63° in "England E." and the "Channel Islands" to 53° in "Scotland E." and 52° in "England N.E." Towards the end of the period the daily maxima at all but the extreme western stations were considerably below 50°. The lowest of the minima were registered on the 13th, and varied from 22° in the north and east of Scotland to 33° in "England S.W." and to 40° in the "Channel Islands."

Rainfall has been more than the mean in "England S.," and has just equalled the normal value in the "Channel Islands," but in all other districts a decided deficit is shown.

Bright Sunshine has been more prevalent in "Scotland N." than it was last week, but less so in all other parts of the Kingdom. The percentage of the possible duration ranged from 9 in "England N.E.," 11 in the "Midland Counties," and 12 in "Ireland N." to 30 in "England E." and to 48 in "Scotland N."

Barometer and Wind.—The barometer has been highest over the northern districts and lowest in the south. No depressions appeared immediately over our Islands. The winds blew steadily from the Eastward in all parts of the Kingdom. In the north they were generally of little strength, but in the south and south-east they occasionally blew freshly or strongly.

* This value has been altered owing to the receipt of further information.

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III. – DATA from which the SUMMARY on page 91 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	49	31	46·3	36·9	41·5	—1·4	12	20	2	0·19	—0·31	*	*
	Stornoway	52	28	49·7	36·3	42·8	—1·5	30	16	1	0·04	—0·54	64·9	65
	Wick	53	26	48·6	36·7	42·5	—1·1	26	15	1	0·20	—0·16	*	*
	Lairg 𝔖	49	22	46·6	32·9	39·4	—3·6	13	33	3	0·10	—0·40	*	*
	Glencarron 𝔖	57	27	51·1	32·4	41·3	—2·2	25	37	0	—†	—0·98	?	?
	Fort Augustus 𝔖	55	24	51·5	33·0	41·8	—3·4	27	35	0	—†	?	29·6	30
1. SCOTLAND, E.	Nairn	53	24	49·4	31·6	40·4	—4·4	21	41	1	0·01	—0·28	*	*
	Aberdeen	48	28	45·7	36·9	41·2	—2·9	10	20	5	0·16	—0·35	30·3	31
	Braemar 𝔖	47	22	44·1	31·8	37·7	—4·0	6	35	6	0·38	—0·20	9·4‡	9‡
	Ochtertyre 𝔖	53	24	48·4	33·9	40·8	—3·9	18	30	5	0·23	—0·30	*	*
	Leith	53	28	47·4	35·4	41·2	—4·7	15	25	1	0·01	—0·38	*	*
	Marchmont 𝔖	49	25	45·0	34·0	39·2	—5·2	8	28	5	0·29	—0·29	14·8	15
2 ENGLAND, N.E.	Alnwick Castle	45	33	43·4	37·9	40·5	—4·5	4	14	3	0·18	—0·37	*	*
	Durham	47	30	43·8	35·8	39·6	—5·6	5	22	5	0·18	—0·34	5·9	6
	Shields	46	31	44·3	36·9	40·5	—5·1	6	19	4	0·10	—0·35	*	*
	Scarborough 𝔐	46	33	43·4	37·4	40·3	—5·5	4	16	4	0·12	—0·33	8·3‡	8‡
	York	52	33	47·3	37·3	42·2	—4·8	21	13	1	0·07	—0·37	12·2	12
	Spurn Head	47	37	45·9	39·7	42·7	—3·8	15	6	1	0·04	?	*	*
3. ENGLAND, E.	Hillington 𝔐	59	30	49·8	38·2	43·7	—3·8	28	11	1	0·02	—0·41	25·2	26
	Yarmouth	49	36	45·3	40·0	42·6	—5·2	13	6	1	0·03	—0·39	*	*
	Geldeston	59	31	48·8	39·1	43·7	—4·3	24	8	3	0·07	—0·28	38·0	40
	Cambridge	63	30	54·4	37·6	45·8	—2·8	45	12	2	0·10	—0·31	21·8	23
	Rothamsted	57	27	50·9	38·3	44·3	—3·4	32	10	5	0·33	—0·19	*	*
	Ingatestone	57	32	51·1	39·7	45·2	—3·9	32	6	3	0·33	—0·05	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	56	28	48·7	36·4	42·3	—5·3	26	16	1	0·05	—0·37	11·8‡	12‡
	Loughborough	59	33	50·9	38·4	44·5	—3·2	33	10	4	0·24	—0·18	15·9‡	16‡
	Cheadle 𝔐	54	34	48·1	36·6	42·1	—3·7	23	15	3	0·31	—0·21	*	*
	Churchstoke 𝔐	53	35	48·9	37·5	42·9	—4·7	25	13	2	0·25	—0·15	6·7	7
	Hereford 𝔐	57	38	51·2	40·9	45·8	—2·7	32	3	3	0·33	—0·09	*	*
	Cirencester	59	30	51·7	38·0	44·5	—3·0	34	11	4	0·39	—0·13	8·8	9
	Oxford	61	30	51·9	39·1	45·3	—3·3	35	8	5	0·22	—0·20	12·3	13
5. ENGLAND, S.	London	60	32	54·0	41·4	47·5	—2·0	41	2	4	0·34	—0·08	21·0‡	22‡
	Strathfield Turgiss 𝔐	62	28	54·7	39·4	46·7	—1·1	44	7	5	0·28	—0·17	*	*
	Dungeness	56	35	50·6	42·7	46·5	—2·7	32	0	6	0·62	+0·20	34·2‡	36‡
	Hastings (St. Leonards)	62	36	53·0	41·7	47·1	—1·7	37	1	5	0·85	+0·37	30·2	31
	Southampton	65	36	55·3	43·1	48·9	+0·2	48	0	5	1·37	+0·89	31·1	32
	Hurst Castle	58	40	53·1	44·3	48·6	—0·4	46	0	5	1·22	+0·79	*	*
	Stowell 𝔐	61	35	52·4	41·1	46·5	—1·6	35	3	4	0·84	?	23·1‡	24‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	30	? 52·3	36·0	?43·8	?—1·9	? 38	17	1	0·01†	—0·85	*	*
	Glasgow	49	31	47·2	37·1	41·9	—3·8	15	19	1	0·02	—0·50	17·1	17
	Ardrossan	54	32	50·0	37·1	43·2	—2·5	29	14	1	0·06	—0·46	*	*
	Glenlee 𝔖	53	31	49·0	36·5	42·5	—2·9	27	15	1	0·10	—0·58	*	*
	Douglas (Isle of Man)	53	37	48·7	40·7	44·5	—2·5	23	4	4	0·33	—0·21	29·3	30
7. ENGLAND, N.W.	Newton Reigny	52	30	46·5	34·9	40·4	—5·1	13	26	2	0·02	—0·41	16·6	17
	Stonyhurst	50	32	46·7	36·3	41·3	—5·3	13	22	3	0·03	—0·54	7·2	7
	Blackpool 𝔐	56	35	51·3	39·1	44·9	—3·1	32	8	1	0·02	—0·38	15·6	16
	Manchester	52	34	47·7	38·0	42·6	—3·6	21	11	2	0·03	—0·46	*	*
	Liverpool Obsy. (Bidston)	55	37	49·6	39·4	44·3	—3·2	27	7	3	0·16	—0·21	*	*
	Llandudno 𝔐	53	37	48·6	39·6	43·9	—4·9	23	7	1	0·04	—0·36	11·4	12
	Holyhead	54	40	49·9	40·7	45·1	—3·6	27	4	3	0·31	—0·31	*	*
8. ENGLAND, S.W.	Llandovery	57	33	53·0	39·1	45·7	—2·9	38	8	1	0·02	—0·63	*	*
	Pembroke	55	38	52·0	42·1	46·8	—2·2	34	0	3	0·06	—0·43	21·1	22
	Arlington (N. Devon)	57	36	50·9	42·1	46·5	—1·4	32	0	3	0·20	—0·50	*	*
	Cullompton 𝔐	62	37	53·6	42·4	47·7	—1·0	40	0	5	0·92	+0·31	15·7	16
	Falmouth	54	43	51·7	45·4	48·4	—0·7	45	0	3	0·78	+0·03	22·0	23
	Plymouth	61	39	54·3	44·8	49·3	—0·5	51	0	5	0·75	+0·15	23·3	24
	Prawle Point	54	40	49·3	43·6	46·3	—2·4	30	0	6	0·53	?	*	*
9. IRELAND, N.	Malin Head	51	38	47·3	40·3	43·6	—2·7	18	5	2	0·05	?	*	*
	Londonderry	60	32	53·2	37·2	44·8	—2·1	40	13	2	0·07	—0·47	*	*
	Mullaghmore	52	39	49·6	40·1	44·6	—3·2	26	5	2	0·02	—0·44	*	*
	Belmullet	55	35	52·4	40·9	46·4	—1·6	35	3	3	0·18	?	*	*
	Markree Castle	56	29	50·8	35·8	42·9	—4·6	32	17	3	0·08	—0·49	12·8	13
	Brookeborough	55	34	49·3	37·7	43·2	—3·9	26	12	1	0·01	?	*	*
	Armagh	55	34	49·2	38·1	43·4	—3·7	26	11	3	0·12	—0·40	10·6	11
	Donaghadee	52	39	49·0	41·1	44·9	—2·7	24	3	3	0·15	—0·32	*	*
	Edgeworthstown	54	34	49·7	37·9	43·5	—4·1	28	11	2	0·04	—0·53	*	*
10. IRELAND, S.	Dublin	53	40	49·8	42·9	46·2	—2·1	29	0	2	0·50	+0·02	16·3	17
	Parsonstown	58	31	52·1	39·0	45·2	—2·6	35	8	1	0·02	—0·48	19·5	20
	Kilkenny	61	32	53·0	39·7	46·0	—1·6	38	6	4	0·11	—0·41	*	*
	Waterford	59	38	53·2	41·8	47·2	—1·4	37	1	4	0·13	—0·54	*	*
	Roche's Point	56	38	52·1	43·0	47·3	—1·4	37	0	2	0·20	—0·30	*	*
	Valencia	59	40	54·1	42·9	48·2	—1·0	43	0	5	0·91	—0·02	22·4	23
	Killarney	60	31	54·1	40·5	47·1	—1·3	42	4	6	0·55	?	*	*
	Foynes	59	38	54·0	41·3	47·4	—0·4	41	2	4	0·17	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	53	40	51·6	44·6	47·9	—1·9	41	0	5	0·24	—0·34	*	*
	Jersey	63	43	55·7	46·0	50·6	+1·3	60	0	6	0·82	+0·34	17·4	18

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

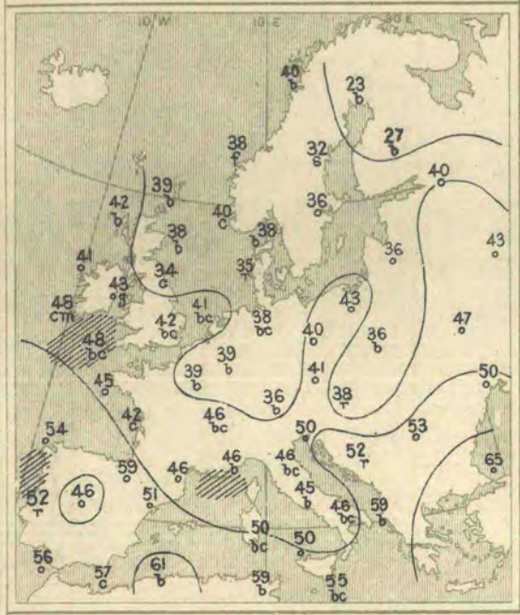
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 13th April.

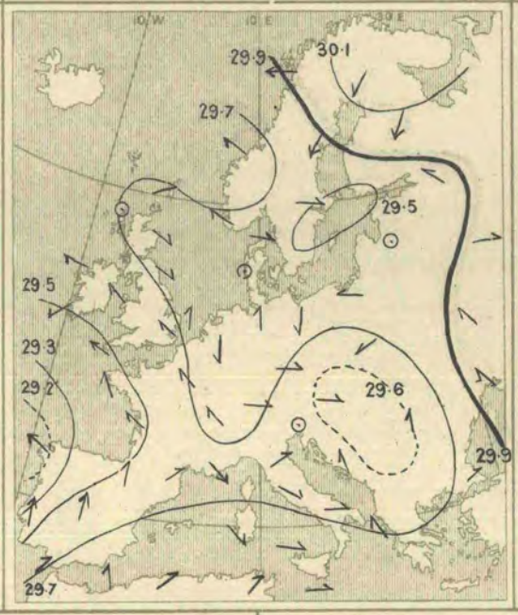
Temperature and Weather.

8 a.m.

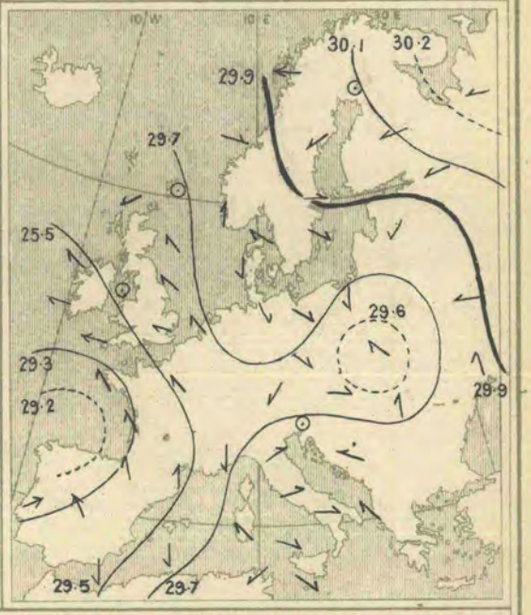


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning dull and unsettled over Spain, the Bay of Biscay, and west of France, with much rain at Lisbon and slighter falls at some other places; dull and very rainy over central and south-eastern Europe, fair or fine elsewhere, slight rain in the west and south-west of our Islands later, larger quantities over southern and south-western Europe, and a considerable quantity in some parts of Sweden, Germany, and Austria.

Temperature rather low generally; exceeding 50° at the Spanish stations and over the southern and eastern parts of the Mediterranean, below 50° elsewhere, below 40° in many parts of our Islands, as well as over Scandinavia, and as low as 23° at Haparanda, 27° at Kuopio, and 32° at Hernösand. Rising to between 60° and 70° over Italy and the south-west of France later, and to between 50° and 55° in the west and south of the United Kingdom. Very sharp frost in north of Scotland still later.

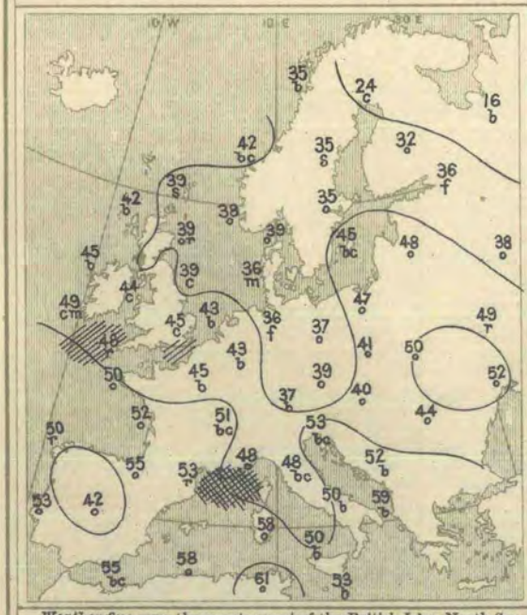
Wind Southerly in Spain and Portugal, fresh to a gale in force; South-Easterly over the Bay of Biscay, the Channel, England, and Ireland, fresh to light in force; North-Easterly to Easterly over northern Europe; very variable elsewhere. The South-Easterly wind spreading to Scotland later, while the Easterly wind over Scandinavia fell light, and at Lisbon the breeze veered to South-West.

Barometer highest, 29·9 ins. to 30·1 ins. and more, over northern Europe, and 29·8 ins. to 30·0 ins. and more over the other parts of Russia. Lowest, 29·2 ins. and less, in a large depression lying to the westward of Oporto, and 29·6 ins. and less in a shallow system over Austria. Gradients moderate in the extreme south-west and over northern Europe, slight and irregular over the North Sea, Germany, Austria, the north of Italy, and south of France. Depressions in south-west and over Austria advancing northwards later; barometer falling steadily throughout our Islands.

Monday, 14th April.

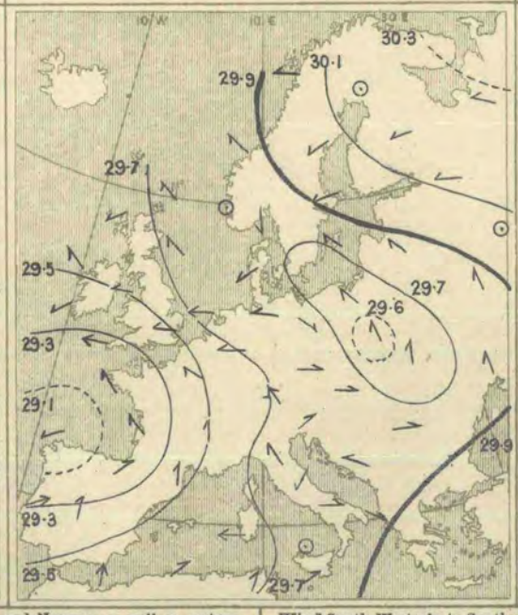
Temperature and Weather.

8 a.m.

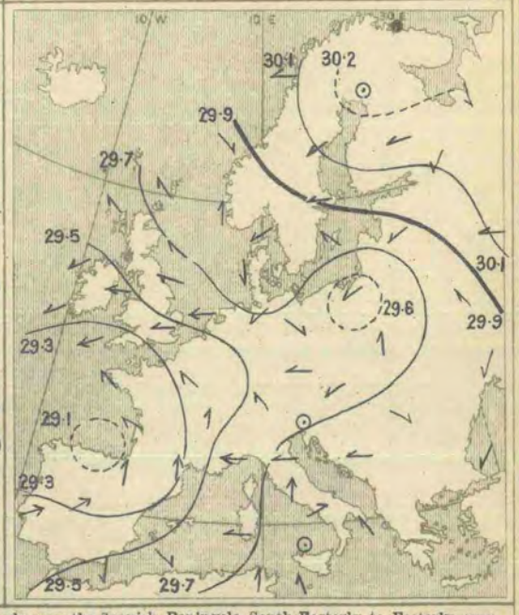


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of the British Isles, North Sea, and Norway, as well as eastern and south-eastern parts of the Mediterranean and Adriatic, east of France, and western Germany; dull and unsettled elsewhere; rain and snow in several parts of Austria, Russia, and Sweden—local rain showers over the Bay of Biscay and at Scilly. Heavy rain later over south of France and Italy, a little in west and south of our Islands; thunder locally in far south. Some rain at the Swedish stations, in the north of Scotland [newspapers report heavy snow in Perthshire], and Germany.

Temperature rising over France, Spain, and the eastern parts of Great Britain; morning readings varying from 50° to 67° on the southern shores of the Mediterranean, and exceeding 50° in Portugal and the west of France; lower elsewhere; below 40° over northern Europe, the Baltic, and North Sea, and as low as 16° at Archangel, 24° at Haparanda, 32° at Kuopio, 33° at Hangö, and 36° at Fanö and Cuxhaven. Daily maxima ranging from 50° to 60° over Ireland and England, and 60° to 68° over France and Italy, exceeding 70° over Algeria (75° at Nemours and Biskra).

Wind South-Westerly to Southerly over the Spanish Peninsula, South-Easterly to Easterly over France and the British Islands, very variable over the North Sea and Germany, Easterly over the Baltic and north of Norway. The Easterly wind blowing strongly at first in the south of France and the English Channel, moderating later, and tending to veer at Biarritz; that over the Baltic freshening somewhat. South-Westerly wind becoming general over Poland and eastern Germany.

Barometer highest, 30·0 ins. to 30·3 ins., over Russia, Finland, and Scandinavia. Lowest, 29·0 ins. to 29·2 ins., in a depression over the north-west of Spain and the Bay of Biscay, and 29·6 ins. and less in another depression over Poland. Western depression moving northwards later, and barometer beginning to rise over Spain. Polish disturbance moving northwards to neighbourhood of Neu Fahrwasser.

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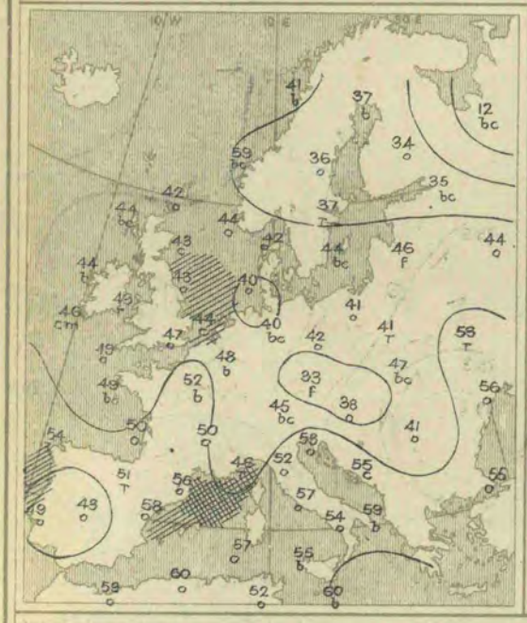
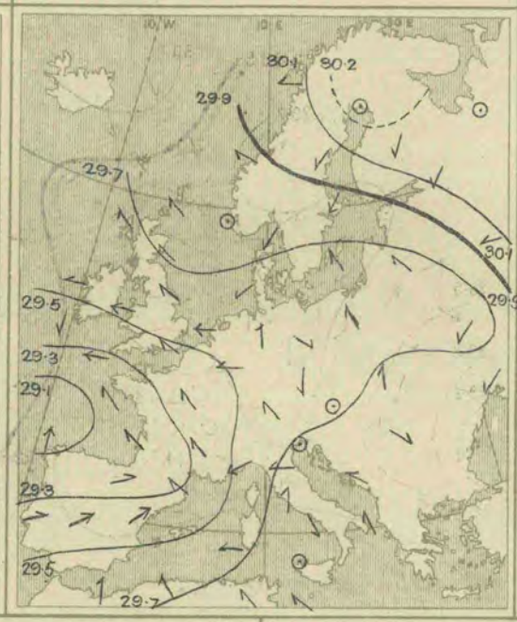
Tuesday, 15th April.

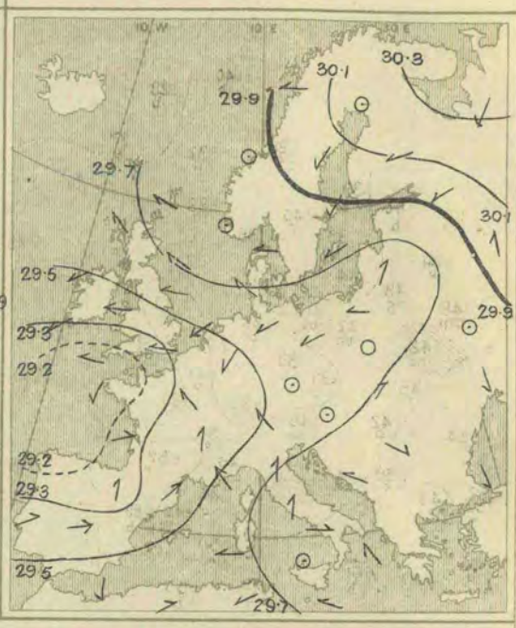
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright in south-eastern Europe and in the north of Russia, Norway, Scotland, and Ireland, and (temporarily) in the Netherlands and north-east of France; dull and unsettled elsewhere. Much rain in south of France during day and a little in the west and north, and in some parts of Germany; at the English and Irish stations also. Thunder and lightning at several French stations and Jersey.

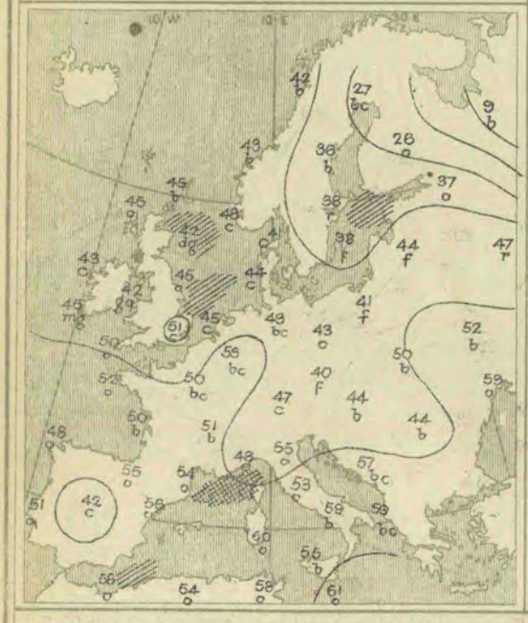
Temperature rising over the greater part of western Europe; highest, 50° to 60°, over the Mediterranean and in the north of Spain, and exceeding 50° in southern Russia. Lowest, 12° at Archangel, 30° to 40° over Finland, but exceeding 40° in all parts of the United Kingdom. Rising to between 55° and 62° over England later, and to between 60° and 70° over France, south Germany, Austria, and Italy, and to between 70° and 82° at the Algerian stations.

Wind South-Westerly (fresh) over Spain, Southerly and South-Easterly (strong) in the south of France, South-Easterly to Easterly over north-western Europe, fresh to strong in many places; Easterly to North-Easterly over the Gulf of Finland, Sweden, and Denmark; variable elsewhere. Little change later.

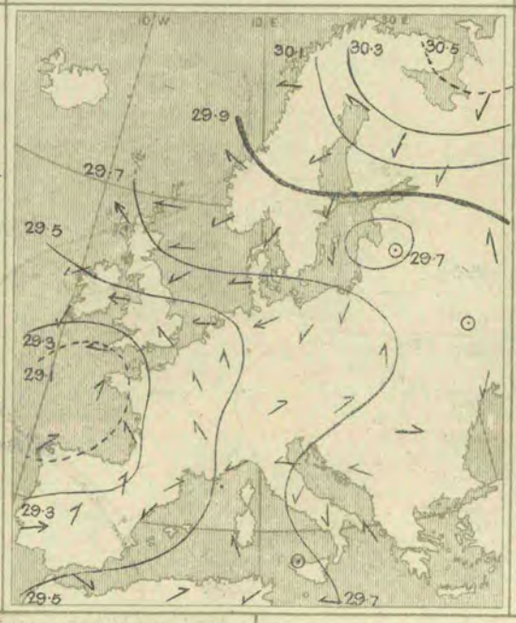
Barometer highest, 30·0 ins. to 30·2 ins. and more, over Lapland, Finland, and the greater part of Russia. Lowest, 29·2 ins. to 29·1 ins., in a complex depression over the Bay of Biscay, and 29·6 ins. and less in a small disturbance over north Germany. Gradients slight over central and south-eastern Europe, moderate elsewhere. Depression over Bay of Biscay and shallow secondaries over France and Germany advancing northwards very slowly during day, and barometer rising over Spain and southern Europe.

Wednesday, 16th April.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright over northern Europe and in many parts of Austria and south-eastern Europe; cloudy, more or less, or overcast, elsewhere, with rain at some of the British and Irish stations and at Moscow. Slight rain later over many parts of the British Isles, Baltic, Germany, and north and west of France, heavy rain in south of France; thunder and lightning in several localities over France and the Channel Islands.

Temperature risen considerably over France, Germany, and Austria, fallen over northern Europe; varying from 50° to 61° at the Mediterranean stations, and slightly exceeding 50° over southern Russia, France, Belgium, and western Germany; ranging between 42° and 50° over the British Isles, and below 30° over northern Europe. Lowest values, 9° at Archangel, 26° at Kuopio, and 27° at Haparanda. Daily maxima, 65° to 72° over Algeria, Austria, and Italy, 77° at Palermo, 63° at Jersey and Cambridge, and 55° to 59° over many parts of England.

Wind Easterly over all the northern and north-western parts of Europe, Southerly to South-Westerly in the south, and very variable at the Italian, Austrian, and Russian stations, not very strong anywhere. Increasing to a moderate gale from West-South-West at Lisbon later, and from the Eastward in the Gulf of Finland; no important change elsewhere.

Barometer highest, 29·9 ins. to 30·4 ins. and more, over the northern parts of Scandinavia, Finland, and Russia, exceeding 29·7 ins. over south-eastern Europe, and 29·6 ins. over western Algeria. Lowest, 29·2 ins. and less, over the Bay of Biscay, Brittany, and the Scilly Islands, and varying between 29·5 ins. and 29·6 ins. over Germany. Gradients moderate over the British Islands and northern Europe; slight and variable elsewhere. Further fall of barometer in Spain, France, and Germany later, but a slight rise over Scandinavia.

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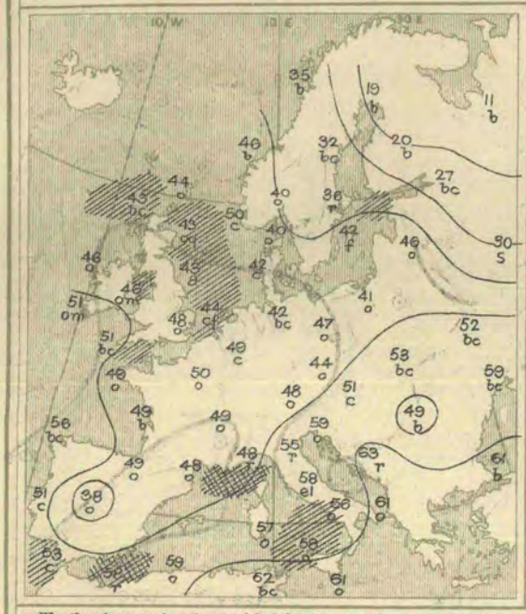
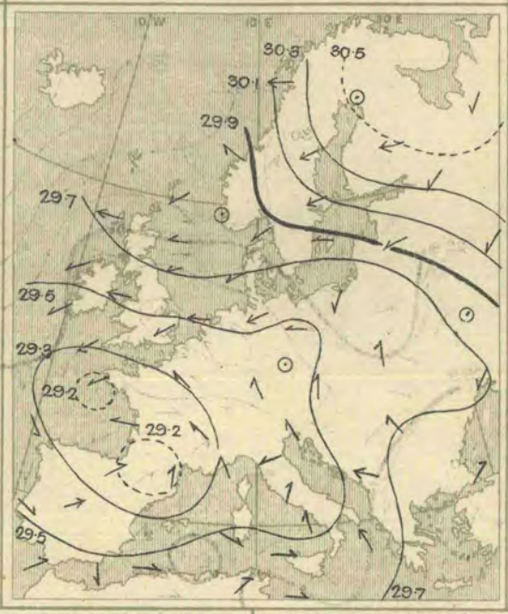
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 17th April.

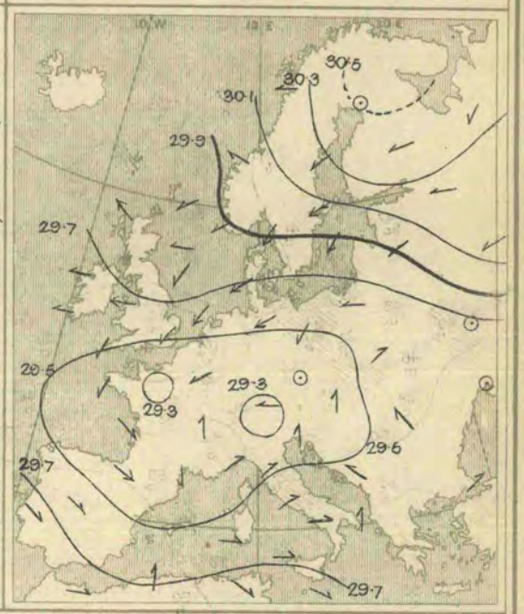
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over northern and south-eastern Europe, as well as in Algeria; very cloudy and unsettled elsewhere, with much rain in the south of France, and smaller quantities over the northern Departments, in the south of our Islands, some parts of Germany, and at Stockholm. Rainfall during day exceeding 2 ins. at Nice, 1·2 ins. at Croisette, and an inch at Leghorn and Monaco, and amounting to nearly three-quarters of an inch at Hurst Castle and Roche's Point. Thunder and lightning in south-west of Ireland and many parts of France.

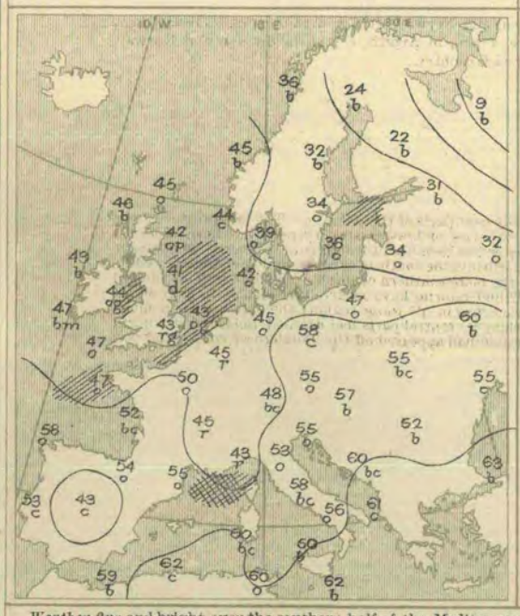
Temperature varying from 50° to 61° over the greater part of the Mediterranean and exceeding 50° on the coasts of the Spanish Peninsula, as well as in southern Russia, on the extreme south-west coasts of our Islands and at Paris. Much lower over northern Europe; lowest readings of all, 11° Faht. at Archangel, 18° at Uleaborg, 20° at Kuopio, 27° at St. Petersburg, 30° at Moscow, and 32° at Hernösand. Exceeding 70° over Algeria and southern Italy, and 60° over northern Italy and some parts of France later, but falling short of the latter value over the British Isles, and short of 50° over the northern half of the Kingdom.

Wind Easterly to North-Easterly over all the northern and north-western parts of Europe, strong to a gale over the Gulf of Finland, and strong on several parts of our own and the Swedish coasts. South-Westerly and Westerly over the southern parts of Spain and the Mediterranean, South-Easterly over the Adriatic and north of Italy; very variable over inland parts of Europe and light in force. North-Easterly wind increasing in force on east and south-east coasts of England later, and continuing to blow hard in the Baltic; but South-Easterly wind appearing at our north-western stations.

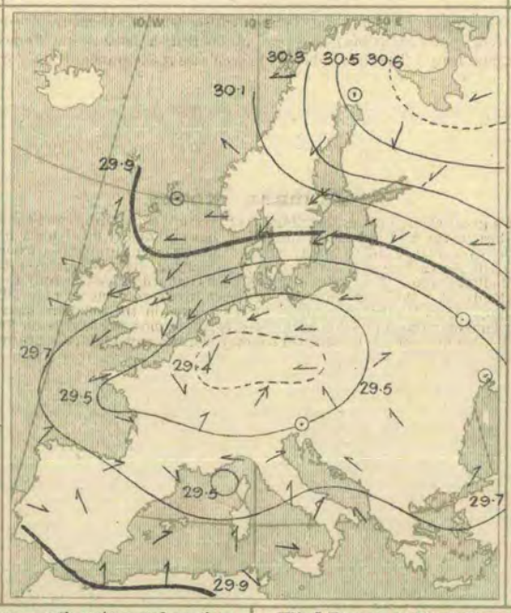
Barometer risen considerably over Finland, fallen over Spain, France, southern and central Europe. Highest, 30·0 ins. to 30·5 ins., over northern Europe, and 29·6 ins. to 29·7 ins. over Algeria. Lowest, 29·2 ins. and less, in depressions over Bay of Biscay and south-west of France, 29·3 ins. to 29·6 ins. in shallow secondary systems over Germany, the south of France, and central Europe. Main depression moving eastwards later, and barometer rising a little over British Isles, Spain, and France. Northern anti-cyclone spreading southwards.

Friday, 18th April.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright over the southern half of the Mediterranean, south-eastern and northern Europe only; dull and unsettled elsewhere; still very rainy in the south of France and north of Italy, showery at some of our own and the French stations and at Brussels, foggy at the Helder, Cape Gris Nez, and Lorient. Considerable rain later in the south of France, on shores of the English Channel, and at Wisby, thunder in some places, snow at the Scaw. Weather improving somewhat over the north of our Islands.

Temperature risen over central Europe, fallen over our Islands and neighbourhood. Morning readings exceeding 60° on eastern, southern, and western shores of the Mediterranean, and exceeding 50° over south-western, south-eastern, and central Europe as a whole; below 50° in our Islands, below 30° in the north of Russia, and as low as 9° at Archangel, 22° at Kuopio, 24° at Haparanda, 31° at St. Petersburg, and 32° at Hernösand, Helsingfors, and Moscow. Rising to between 60° and 66° over France later, and to 70° or a little above in some parts of Algeria and the south of Italy, but continuing below 50° over the greater part of our Islands all day.

Wind Easterly to North-Easterly over the northern and north-western parts of Europe, moderate to a gale in force; extremely variable elsewhere, but chiefly South-Easterly over Germany, and of little strength. Very little change in the north and north-west later, but a somewhat decided Westerly to South-Westerly current setting in over Spanish Peninsula and south-west of France.

Barometer rising in north and north-west, falling over central Europe. Morning readings highest, 30·0 ins. to nearly 30·7 ins., over northern and north-eastern Europe, and 29·8 ins. to 29·9 ins. over Algeria. Lowest, 29·4 ins. and less, in an elongated depression over Belgium and north Germany, and 29·5 ins. and less in a small shallow system near Cape Sicié. Gradients slight over southern and central districts, rather steep over most northern and north-western countries. Larger depression moving eastwards later and becoming shallower; barometer rising slowly over the whole of western Europe.

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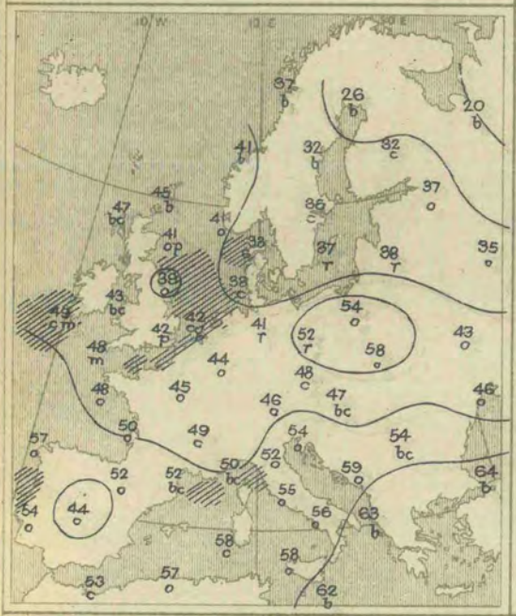
Saturday, 19th April.

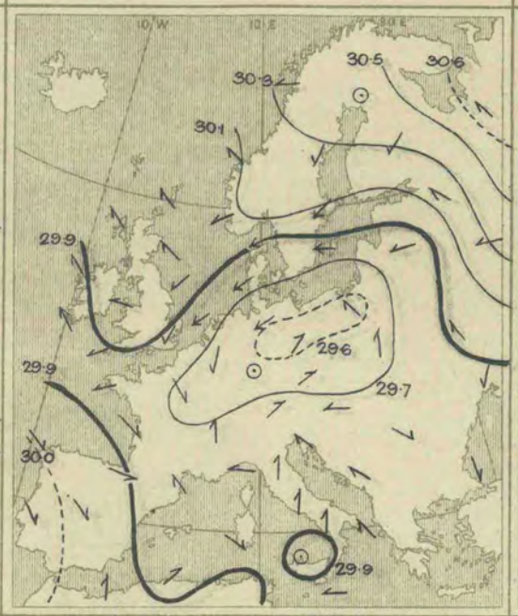
Temperature and Weather. 8 a.m.



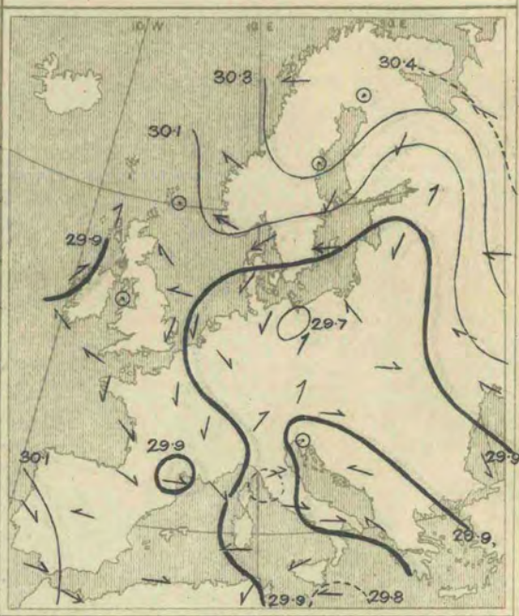
Weather fine in the northern parts of Scotland, Scandinavia, and Russia, as well as in Austria, eastern Germany, the south of France, and the extreme south of Italy; fair in the west of our Islands. Dull elsewhere, with local showers in the south and south-east of England, steady rain at some of the Baltic and north German stations, and snow at Helsingfors and Skagen. Rain falling later in many parts of France and central Europe, and snow at Kuopio.

Temperature highest, 63° at Brindisi, 62° at Malta, 59° at Lesina, and 58° at Warsaw, Barcelona, Cagliari, Nemours, and Sfax; high, 50° and upwards, over southern Europe generally, as well as in many parts of Poland, Austria, and eastern Germany. Lowest, 20° at Archangel, 26° at Haparanda, 30° at Uleaborg, 32° at Hernösand and Kuopio, and 33° at Helsingfors and Faerder; below 40° over the central parts of Ireland and Scotland. Daily maxima below 50° in many parts of our Islands, but thermometer rising above 60° over southern Europe and above 70° in the extreme south of Italy and some parts of central Algeria.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Wind fresh or strong from the North-Eastward over Denmark, the south of Scandinavia, the eastern and southern shores of the North Sea, and the south-east coasts of England; light or moderate from the same quarter over the north of Scandinavia and the west and north of England. South-Easterly in Scotland and the west of Ireland, North-Westerly in Spain, Westerly in the west of France, South-Westerly or Southerly over Italy, Algeria, and the greater part of central Europe. Subsequently veering to the North-Westward or Northward in the west of France.

Barometer highest, 30·6 ins. and upwards, in an anti-cyclone lying over northern Russia, 30·0 ins. and upwards in another system lying over the western parts of the Iberian Peninsula. Lowest, 29·6 ins. and less, in an elongated depression lying over north Germany. Barometer rising during day in all parts of western and central Europe, and German depression gradually filling up.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➤ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The week now under notice has brought with it a great change in the distribution of pressure over Europe and the adjacent parts of the Atlantic. The low-pressure areas which, prior to the 13th, had prevailed over central Europe, the Mediterranean, and Baltic, have gradually filled up, a new series of low-pressure systems has been observed over the Bay of Biscay, and very shallow secondaries over France and Germany, while over northern Europe the barometer has been high throughout. Easterly winds have consequently been prevalent over the British Isles, the North Sea, and northern Europe, varying light winds over Germany, the south of France, and the Adriatic, while Westerly breezes have set in gradually over the Mediterranean. Rainy weather has been confined almost entirely to the more southern countries; in those regions the fall has been large, and in the southern parts of our Islands, also, the aggregate fall has been in excess of the average. Thunderstorms have occurred frequently in France and have at times spread northwards to the English Channel. Occasional showers have been observed in the northern districts, but in all those regions the fall has been much below the normal quantity for the time of year. On Thursday the depression in the west began to move eastwards, on Friday its central parts had reached Belgium and north Germany, and on Saturday it appeared to have nearly filled up over the last-named country, while a new high-pressure system had appeared off the Portuguese coasts, and was spreading north-eastwards towards France.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 17.] *Third Series.* WEEK ENDING SATURDAY, 26TH APRIL, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 98.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	58	29	50·6	38·5	44·3	0 (average)	31	+ 5	10	− 2	242	+59	427	− 50
	1. SCOTLAND, EAST	60	27	53·1	37·6	45·0	0 (average)	39	+ 5	12	+ 2	301	+43	473	− 47
	2. ENGLAND, N.E.	59	31	52·2	38·8	45·3	2 below.	37	+ 2	9	0	278	+15	380	− 84
	3. ENGLAND, EAST	63	30	54·6	39·6	46·8	3 below.	44	− 1	7	− 3	345	− 6	456	− 32
	4. MIDLAND COUNTIES	60	30	54·5	39·6	46·7	2 below.	43	− 5	7	− 4	373	− 5	463	− 19
	5. ENGLAND, SOUTH	62	32	53·9	42·1	47·7	2 below.	40	−10	0	− 6	406	+ 2	303	− 61
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	58	29	52·3	40·1	45·9	1 below.	35	− 4	5	− 4	325	+30	319	− 64
	7. ENGLAND, N.W.	59	30	52·4	40·8	46·3	2 below.	35	− 6	3	− 4	317	+14	299	− 74
	8. ENGLAND, S.W.	61	35	53·8	43·3	48·3	1 below.	44	− 2	0	− 4	438	+ 1	244	+ 16
	9. IRELAND, NORTH	61	28	53·6	41·2	47·1	1 below.	39	− 3	2	− 6	365	+ 3	295	− 42
	10. IRELAND, SOUTH	67	30	55·9	43·5	49·4	0 (average)	52	+ 5	0	− 5	489	+12	225	− 7
	— CHANNEL ISLANDS	56	41	53·2	45·9	49·4	1 below.	52	+ 2	0	0	573	+77	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 98.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	7	13	6 more.	83	+ 7	18·0	− 0·4	31	30	298	−34	24	− 3
	1. SCOTLAND, EAST	6	7	2 more.	69	+ 9	9·4	− 0·4	42	41	346	−34	28	− 2
	2. ENGLAND, N.E.	4	2	3 less.	60	+ 1	5·8	− 2·0	38	37	306	+ 4	24	0
	3. ENGLAND, EAST	5	4	0 (average.)	66	+ 5	6·7	− 0·5	30	30	385	−14	30	− 1
	4. MIDLAND COUNTIES	5	3	1 less.	59	+ 1	6·2	− 2·4	24	24	330	−22	26	− 1
	5. ENGLAND, SOUTH	6	14	9 more.	62	+ 5	8·3	− 0·5	18	18	355	−15	28	− 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	6	12	4 more.	72	+ 4	15·7	− 2·3	39	39	340	+10	27	+ 1
	7. ENGLAND, N.W.	5	4	1 less.	68	+ 6	9·7	− 0·6	30	29	322	+ 1	26	+ 1
	8. ENGLAND, S.W.	6	15	9 more.	69	+ 3	11·7	− 2·6	30	30	413	+ 2	32	0
	9. IRELAND, NORTH	6	5	0 (average.)	76	+ 2	10·0	− 1·1	43	42	359	+ 2	29	+ 1
	10. IRELAND, SOUTH	6	6	0 (average.)	74	+ 3	14·1	+ 0·4	45	45	418	+18	33	+ 2
	— CHANNEL ISLANDS	6	12	7 more.	72	− 1	10·2	− 1·0	19	19	459	−38	36	− 2

General Remarks.

Weather during this period has been very changeable and unsettled; at times bright and fine, at others dull, with somewhat heavy falls of rain and local showers of hail. Thunderstorms were experienced in many parts of England towards the close of the week.

Temperature has just equalled the mean in the north and east of Scotland and the south of Ireland, but in all other parts of the Kingdom it has continued rather low for the time of year—especially over the east of England. The highest of the maxima, which were recorded either on the 21st or 22nd, ranged from 67° in "Ireland S." and 63° in "England E." to 58° in "Scotland N." and "Scotland W." and 56° in the "Channel Islands." The daily maxima during the latter part of the period were in many instances below 50°. The lowest of the minima were registered either on the 25th or 26th, and varied from 27° to 29° in Scotland, from 28° to 30° over Ireland, and from 30° to 35° over England. In the "Channel Islands" the thermometer did not fall below 41°.

Rainfall has been a little less than the mean over the north of England and about the normal amount in Ireland, as well as in "England E.," but more in all other districts. Over southern and south-western England and in the "Channel Islands" the fall has been heavy.

Bright Sunshine has been very little prevalent over southern England and the Channel, but in most other parts of the Kingdom an increase is shown. The percentage of possible duration ranged from 45 in "Ireland S.," 42 in "Ireland N.," and 41 in "Scotland E.," to 24 in the "Midland Counties," 19 in the "Channel Islands," and 18 in "England S."

Barometer and Wind.—During the greater part of the week depressions passed north-eastwards either over or a little to the northward of Scotland, and the winds over our Islands were moderate to fresh from between South-West and West. During the latter part of the time depressions moved eastwards over our southern counties also, and although they were shallow and caused but little wind, the rainfall accompanying them was heavy. At the end of the period the disturbances had disappeared to the eastward and moderate Northerly winds prevailed on all our coasts.

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III.—DATA from which the SUMMARY on page 97 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	51	35	48·3	39·3	43·7	—0·1	23	8	6	0·40	—0·08	*	*
	Stornoway	52	36	50·0	38·7	44·2	—0·8	29	9	7	1·67	+1·09	37·9	36
	Wick	53	35	50·7	38·7	44·5	—0·1	31	9	6	0·86	+0·50	*	*
	Lairg Ⓢ	55	29	50·9	36·9	43·6	—0·3	33	14	7	1·48	+0·98	*	*
	Glencarron Ⓢ	58	33	51·6	38·0	44·5	+0·3	34	11	7	2·27†	+1·29	?	?
	Fort Augustus Ⓢ	56	36	52·0	39·6	45·5	—0·8	35	7	6	1·26†	?	24·2	23
1. SCOTLAND, E.	Nairn	59	29	54·7	39·4	46·8	+1·1	45	7	6	0·46	+0·15	*	*
	Aberdeen	59	32	52·7	37·7	45·0	—0·2	39	12	6	0·54	+0·03	46·7	45
	Braemar Ⓢ	53	27	49·5	35·5	42·2	—0·4	29	18	6	0·91	+0·33	37·7‡	37‡
	Ochtertyre Ⓢ	59	31	54·4	36·7	45·1	—0·4	44	15	7	0·95	+0·41	*	*
	Leith	60	33	55·4	39·7	47·3	+0·5	47	6	5	0·52	+0·13	*	*
	Marchmont Ⓢ	55	28	51·6	36·3	43·6	—1·5	35	16	6	0·55	—0·03	42·0	41
2 ENGLAND, N.E.	Alnwick Castle	53	34	50·1	38·6	44·1	—1·8	29	10	3	0·19	—0·35	*	*
	Durham	57	31	54·0	36·3	44·9	—1·1	42	15	5	0·32	—0·21	33·9	34
	Shields	56	33	52·0	38·7	45·2	—1·2	36	9	3	0·23	—0·21	*	*
	Scarborough ℳ	57	36	51·5	39·8	45·4	—1·4	33	6	4	0·21	—0·24	40·5‡	40‡
	York	59	34	54·9	38·1	46·3	—1·8	46	11	2	0·10	—0·33	38·1	38
	Spurn Head	57	36	50·9	40·7	45·7	—1·6	31	4	5	0·15	?	*	*
3. ENGLAND, E.	Hillington ℳ	60	30	54·6	38·7	46·3	—2·8	44	9	4	0·19	—0·23	34·3	34
	Yarmouth	60	35	52·4	40·3	46·2	—3·1	37	5	5	0·28	—0·13	*	*
	Geldeston	62	33	55·2	39·0	46 7	—2·3	46	8	5	0·38	+0·01	31·7	32
	Cambridge	63	32	56·4	39·7	47·8	—2·4	50	6	6	0·26	—0·14	22·9	23
	Rothamsted	60	30	53·9	39·7	46·5	—2·2	41	6	6	0·55	+0·05	*	*
	Ingatestone	61	32	54·3	40·0	47·1	—3·9	44	6	4	0·70	+0·32	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	58	30	54·7	39·0	46·5	—2·7	44	8	3	0·06	—0·35	28·8‡	29‡
	Loughborough	60	32	55·7	40·0	47·6	—1·2	48	6	5	0·11	—0·31	22·2‡	22‡
	Cheadle ℳ	58	34	52·8	38·5	45·3	—1·8	38	10	7	0·49	—0·03	*	*
	Churchstoke ℳ	58	33	53·8	38·7	45·9	—2·8	41	9	6	0·30	—0·10	29·6	30
	Hereford ℳ	60	36	56·2	41·7	48·6	—0·9	47	1	5	0·31	—0·11	*	*
	Cirencester	57	30	53 6	37·6	45·2	—3·3	41	12	6	0·59	+0·07	20·9	21
	Oxford	59	36	54·6	41·4	47·8	—1·8	43	2	5	0·43	+0·01	17·9	18
5. ENGLAND, S.	London	62	34	56·3	41·7	48·7	—1·7	48	1	5	1·20	+0·77	16·1‡	16‡
	Strathfield Turgiss ℳ	62	32	55·4	41·3	48·0	—0·8	45	2	6	1·09	+0·66	*	*
	Dungeness	56	34	51·1	41·1	46·0	—4·2	32	3	6	1·54	+1·12	30·9‡	31‡
	Hastings (St. Leonards)	54	37	52·2	41·6	46·7	—3·2	35	1	4	1·72	+1·25	18·3	18
	Southampton	61	35	55·8	42·7	48·9	—1·0	48	0	5	1·16	+0·68	19·8	20
	Hurst Castle	57	39	52·9	44·1	48·4	—1·6	45	0	6	1·28	+0·85	*	*
	Stowell ℳ	58	35	53·4	41·9	47·4	—2·0	38	0	7	1·70	?	4·1‡	4‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	55	36	? 51·2	40·2	?45·4	?—1·3	? 31	5	7	2·17†	+1·31	*	*
	Glasgow	58	36	52·7	39·8	45·9	—0·6	37	6	4	1·25	+0·73	37·0	36
	Ardrossan	56	39	51·9	42·0	46·7	+0·2	33	0	4	1·00	+0·48	*	*
	Glenlee Ⓢ	57	29	53·0	37·4	44·8	—1·1	39	13	6	0·94	+0·29	*	*
	Douglas (Isle of Man)	57	34	52·8	40·9	46·6	—1·2	37	3	7	0·53	0·00	41·2	41
7. ENGLAND, N.W.	Newton Reigny	56	30	51·1	37·0	43·7	—2·8	33	14	5	0·33	—0·09	36·1	36
	Stonyhurst	53	33	51·1	39·1	44·8	—2·9	32	8	4	0·39	—0·17	27·5	27
	Blackpool ℳ	59	35	51·7	39·9	45·5	—3·6	33	6	4	0·27	—0·13	35·7	35
	Manchester	55	34	53·0	40·1	46·2	—1·5	37	5	6	0·37	—0·11	*	*
	Liverpool Obsy. (Bidston)	58	37	54·0	42·0	47·7	—0·8	40	0	5	0·32	—0·05	*	*
	Llandudno ℳ	58	40	53·7	44·1	48·7	—1·1	47	0	5	0·38	0·00	19·0	19
	Holyhead	55	39	52·3	43·6	47·7	—2·1	40	0	6	0·39	—0·03	*	*
8. ENGLAND, S.W.	Llandovery	59	35	56·4	40·6	48·1	—1·7	49	4	7	0·51	—0·14	*	*
	Pembroke	53	42	50·9	45·0	47·8	—2·0	41	0	4	0·59	+0·11	37·3	38
	Arlington (N. Devon)	58	37	52·6	41·9	47·0	—1·8	35	0	6	2·16	+1·46	*	*
	Cullompton ℳ	59	38	55·8	42·6	48·9	—0·9	48	0	6	2·07	+1·46	25·5	26
	Falmouth	57	39	53·7	44·7	49·0	—0·7	49	0	6	1·69	+0·98	31·0	31
	Plymouth	61	42	56·2	44·9	50·3	—0·4	58	0	6	1·75	+1·17	24·5	25
	Prawle Point	54	40	51·3	43·4	47·2	—2·5	36	0	6	1·64	?	*	*
9. IRELAND, N.	Malin Head	54	40	51·1	41·4	46·0	—1·3	31	2	6	0·73	?	*	*
	Londonderry	58	36	53·9	41·0	47·1	—0·6	40	3	6	0·75	+0·23	*	*
	Mullaghmore	56	39	52·3	43·3	47·6	—1·1	39	0	6	0·49	+0·02	*	*
	Belmullet	54	38	51·7	44·1	47·7	—1·1	40	0	7	0·65	?	*	*
	Markree Castle	58	28	53·8	39·8	46·5	—2 1	41	6	7	0·46	—0·09	38·5	38
	Brookeborough	58	28	54·4	38·5	46·1	—2·3	43	10	6	0·48	?	*	*
	Armagh	59	33	55·5	39·9	47·3	—0·7	46	6	6	0·49	—0·02	46·9	46
	Donaghadee	61	41	55·1	43·9	49·2	+0·8	50	0	6	0·16	—0·32	*	*
	Edgeworthstown	59	29	55·0	38·7	46·5	—2·6	45	9	7	0·61	+0·08	*	*
10. IRELAND, S.	Dublin	64	36	57·2	42·6	49·6	+0·4	53	0	5	0·38	—0·10	47·2	47
	Parsonstown	63	30	56·4	40·6	48·1	—0·8	49	4	6	0·28	—0·22	45·2	45
	Kilkenny	63	35	56·1	43·0	49·2	+0·1	50	0	6	0·52	—0·00	*	*
	Waterford	61	38	57·1	43·7	50·1	+0·6	57	0	5	0·53	—0·13	*	*
	Roche's Point	57	40	54·9	45·1	49·8	+0·2	55	0	4	0·80	+0·03	*	*
	Valencia	57	42	54·3	46·3	50·1	+0·2	57	0	6	0·95	+0·07	43·3	44
	Killarney	65	36	56·3	43·2	49·4	—0·2	52	0	6	0·92	?	*	*
	Foynes	67	36	55·0	43·7	49·1	+0·4	50	0	7	0·57	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	56	41	53·4	45·7	49·4	—0·9	52	0	6	1·08	+0·51	*	*
	Jersey	54	43	53·0	46·0	49·3	—1·3	51	0	6	1·26	+0·79	19·0	19

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

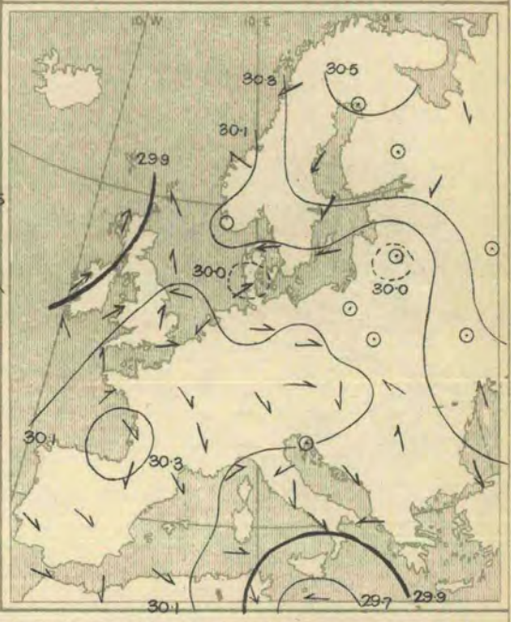
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 20th April.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine in the north and east of Scotland and the north of Scandinavia, as well as in Austria and the south of France. Cloudy or dull elsewhere, with mist at several of the English and Irish stations, and rain at St. Petersburg, Belfort, Munich, and Malta. Sky clearing later over the south and south-east of England, but rain setting in on our extreme north-west coasts. Showers falling during day at several of the German and Austrian stations.

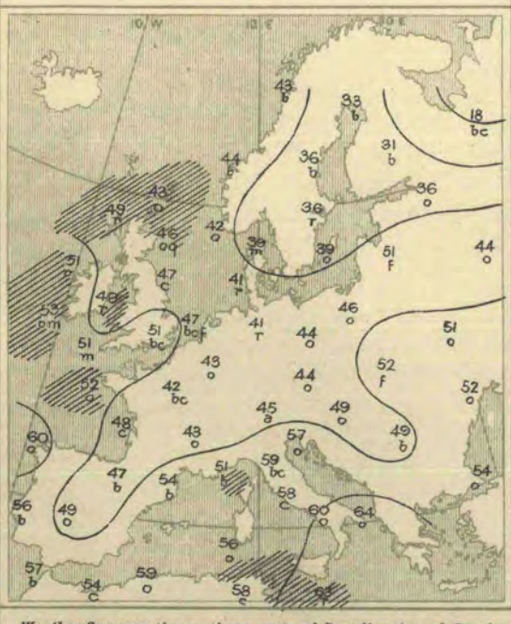
Temperature highest, 64° at Brindisi, 63° at Malta, 60° at Trieste, and 59° at Lesina and Naples; high, 50° and upwards, over southern Europe generally, as well as in the extreme west and south-west of our Islands. Lowest, 29° at Haparanda, 31° at Archangel, 32° at Kuopio, 34° at Stockholm, 35° at Hangö, Helsingfors, and Moscow, and 36° at Skagen; below 40° in some parts of central England. Subsequently rising to 55° and upwards in many parts of Ireland and England, the highest reading being 63° at Parsonstown; daily maxima exceeding 70° in the southern parts of Austria and Italy.

Wind Southerly or South-Easterly in the west and north of our Islands, strong in force in the west of Ireland. Light or moderate from North or North-West over France, the Iberian Peninsula, and the east and south-east of England; Westerly or South-Westerly in Germany and Austria, South-Easterly or Southerly over central and southern Russia, Easterly in Scandinavia and Denmark. Subsequently backing to the South-Westward in the south-east of England and to the South-Eastward on our extreme south-west coasts, but no important change occurring at the Continental stations.

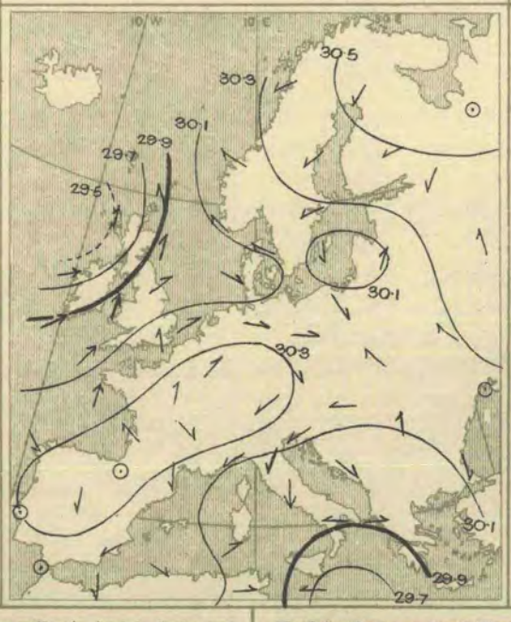
Barometer highest, 30·5 ins. and upwards, in an anti-cyclone lying over central Russia; high, 30·2 ins. and upwards, in another area extending north-eastward from Portugal to the north-west of France. Lowest, 29·9 ins. and less, in a large and irregularly-shaped depression lying over Denmark, north Germany, and the Baltic, as well as in another disturbance lying to the westward of the United Kingdom. Depression in west subsequently moving northwards, but new system beginning to approach the south of Ireland, and a third appearing near Malta.

Monday, 21st April.

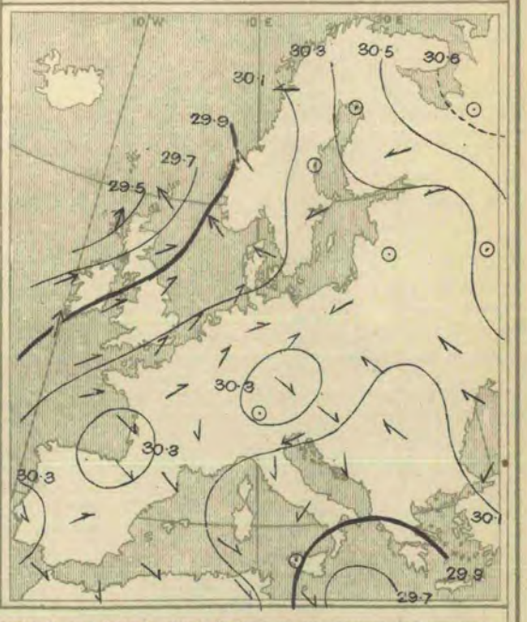
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the northern parts of Scandinavia and Russia, as well as in Austria, Spain, and the south of France; fair in the east and south-east of Great Britain and the north of France. Dull elsewhere, with fog over the Baltic Provinces, rain at some of our own western and northern stations, as well as over Denmark and the northern parts of the Baltic, and snow at Helsingfors. Rain falling later in all parts of the United Kingdom—heavily (1 inch) at Stornoway. Showers experienced over the south of Italy.

Temperature highest, 55° to 60° or more, over the Adriatic, the Mediterranean, and the coasts of the Iberian Peninsula (Brindisi 64°, Malta 63°, Corunna 62°, Toulon and Lesina 61°); high, 50° or a little more, in several parts of our Islands. Lowest, 18° at Archangel, 31° at Kuopio, 33° at Haparanda, 35° at Hangö, and 36° at Hernösand, Uleaborg, Stockholm, Faerder, Helsingfors, and St. Petersburg; below 40° in some parts of central France. Thermometer subsequently rising to between 55° and 60° in many parts of the United Kingdom and to 61° at Donaghadee. Daily maxima slightly exceeding 70° over the central parts of Spain, Italy, and Algeria.

Wind Southerly or South-Westerly in our Islands, strong in force on our western and extreme northern coasts. Light or moderate from the Eastward or North-Eastward over Finland and Scandinavia, and from the Westward or South-Westward over Denmark and north Germany. Variable over France, Spain, and the greater part of central and eastern Europe; Northerly over Italy and the southern parts of the Mediterranean, with a moderate gale in Tunis. Subsequently backing to the Eastward of South on our extreme western coasts, and increasing to a gale at Valencia.

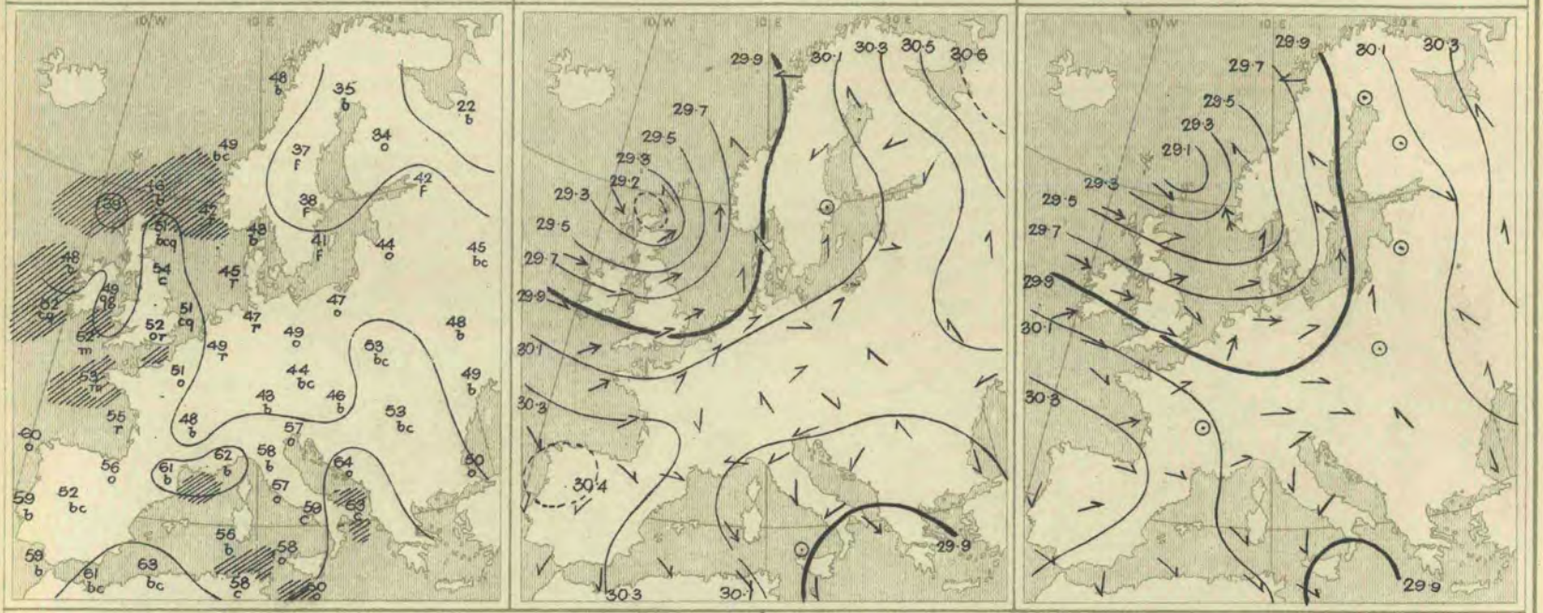
Barometer highest, 30·5 ins. and upwards, in an anti-cyclone lying over Lapland and northern Russia; high, 30·3 ins. and upwards, in another system extending north-eastwards from Spain to western Germany. Lowest, 29·6 ins. and less, in a depression lying to the north-westward of our Islands, 29·7 ins. and less in another system lying over the Mediterranean to the southward of Malta. Depression in north-west subsequently travelling away in a northerly direction, but new disturbance approaching the west of Ireland in evening. Mediterranean depression moving slowly eastwards.

Judd & Co Ltd Lith. 73 & 75, Farringdon Rd & Doctors Commons.

Tuesday, 22nd April.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather fine at several of the Irish stations, as well as over the north of Scandinavia, Russia, Austria, Spain, Algeria, and the southern parts of France and Germany. Dull elsewhere, with fog over Sweden and the Gulf of Finland, and rain in many parts of Great Britain, as well as in the Netherlands, Denmark, and the south of Scandinavia. Some improvement taking place over Great Britain later, but weather remaining somewhat showery. Rain setting in over Sweden and the north of Russia.

Temperature highest, 64° at Lesina, 63° at Brindisi and Algiers, 62° at Bilbao, Nice, and Leghorn, and 61° at Perpignan, Toulon, and Oran; above 50° in many parts of England, Ireland, and France. Lowest, 22° at Archangel, 34° at Kuopio, 35° at Haparanda, 36° at Hangö, 37° at Uleaborg, Hernösand, and Helsingfors, 38° at Stockholm and Faerder, and 39° at Stornoway. Subsequently rising to 60° or a little above over the central and eastern parts of England, and to 70° or more in many parts of southern Europe, the highest readings of all being 79° at Madrid and 77° at Barcelona.

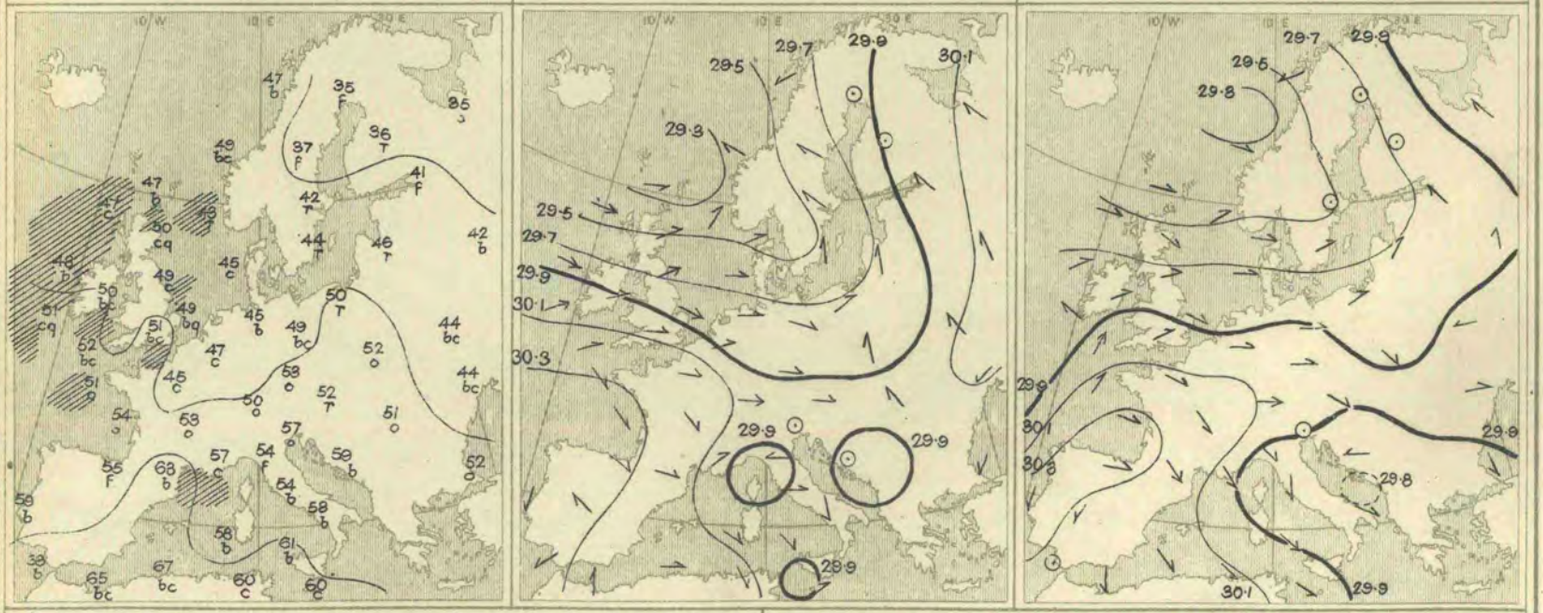
Wind strong from the Westward in the west of our Islands, moderate or fresh from the South-Westward on our east and south-east coasts and in the north of France; Southerly on the eastern shores of the North Sea. Light from the South-Eastward or Eastward in Sweden and Russia; variable over central Europe and Algeria, light or moderate from the Northward over Italy and Spain. Subsequently veering to the Westward over the whole of the United Kingdom and continuing to blow strongly in the west; no important change occurring elsewhere.

Barometer highest, 30·6 ins. and upwards, in an anti-cyclone lying over northern Russia; high, 30·4 ins. and upwards, in another system lying over the north of Spain. Lowest, 29·2 ins. and less, in a well-marked and rather deep depression lying over the north of Scotland, 29·8 ins. and less in a shallow disturbance lying over the Mediterranean to the southward of Italy. Depression in north subsequently travelling away in a north-north-easterly direction, and barometer rising in all parts of the United Kingdom; Mediterranean system remaining almost stationary.

Wednesday, 23rd April.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather in morning fine and bright over the greater part of our Islands and north-western Europe, but rather squally and showery in a few localities, dull and rainy over the Baltic, eastern Russia, and Poland; dull and unsettled over the northern parts of the Mediterranean, but fine over Algeria. Becoming very unsettled over Ireland, England, and France later, with rain in most places; fall as large as 1·8 in. at Nantes. Solar halo seen at many of our southern stations.

Temperature fallen a little over the western and north-western countries. Morning values, 60° to 67° on the southern shores of the Mediterranean, and exceeding 50° on the Atlantic coasts of France, Spain, and our Islands; below 40° over northern Europe only, lowest readings of all being 35° at Archangel and Haparanda, 36° at Kuopio, 37° at Hernösand, and 39° at Helsingfors. Rising during day to between 55° and 60° over England, to between 60° and 65° in many parts of France, and to 70° or more in Spain and Algeria, highest readings of all being 81° at Nemours and 80° at Madrid.

Wind Westerly, moderate to strong, in our Islands; Westerly, moderate to light, over the greater part of France; but North-Westerly (a gale) at Toulon, Southerly to South-Easterly over the Baltic, Easterly over the northern parts of Norway. Backing quickly on our south-western coasts later—to South-South-West at the mouth of the Channel, and to South-East at Valencia, but not increasing in force. North-Westerly breezes setting in over Italy and Algeria.

Barometer in morning highest, 30·1 ins. to about 30·4 ins., in high-pressure area spreading from Atlantic over Spain and the Bay of Biscay to France and the south of England, and 30·1 ins. to 30·3 ins. and more over Russia. Lowest, 29·3 ins. and less, in a depression near the Shetlands, and 29·9 ins. and less, in others over the Gulf of Genoa and south-eastern Europe. New depression approaching our south-western coasts later, barometer falling fast at Valencia, Scilly, and Brest. Shallow disturbances over the Gulf of Genoa and south-eastern Europe uniting and forming one large area.

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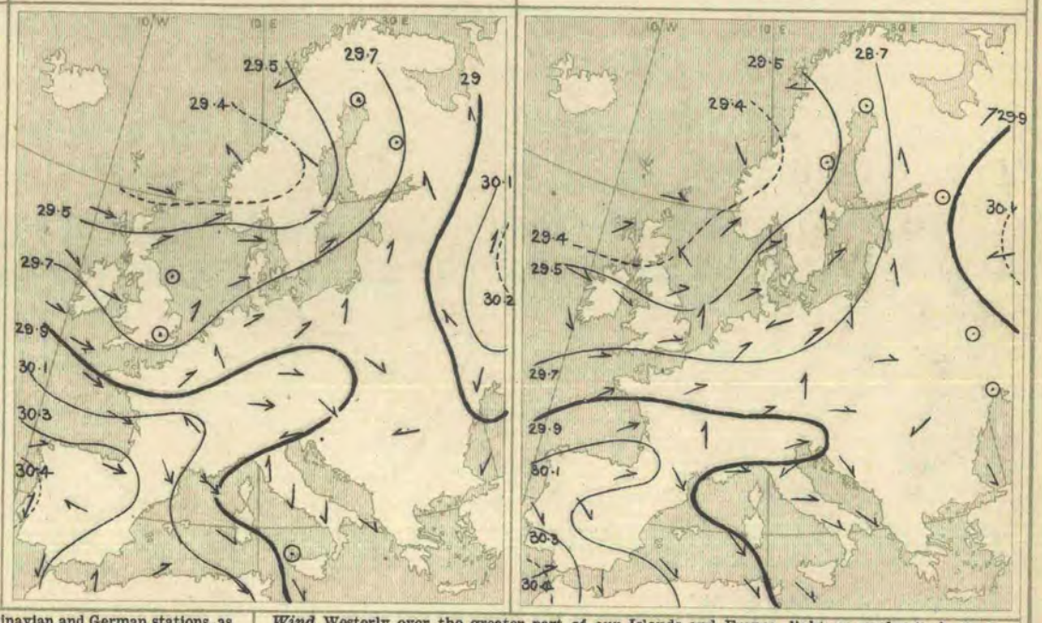
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 24th April.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. / 6 p.m.



Weather fine in the north of Scotland and at some of the Scandinavian and German stations, as well as in Algeria and the southern parts of Spain and Italy. Dull elsewhere, with fog or mist over the Bay of Biscay, the Channel, and the east of England, as well as in Finland, and rain at several of the French and German stations. Rain falling during day in nearly all parts of western Europe and hail showers in Scotland and the north of Ireland. Sky clearing over Russia, Austria, and northern Italy.

Temperature highest, 66° at Algiers, 64° at Barcelona, 63° at Nemours and Oran, 62° at San Fernando and Brindisi, and 60° at Bilbao, Corunna, Lisbon, Malta, and Sfax; above 50° at most of the French stations. Lowest, 36° at Haparanda and Hernösand, 37° at Helsingfors, 38° at Hangö, 39° at Kuopio, and 40° at Uleaborg; below 45° in some parts of Scotland and the North of Ireland. Daily maxima over our Islands mostly below 55°, but thermometer rising above 60° at some of the French stations, and exceeding 70° in Spain and Algeria.

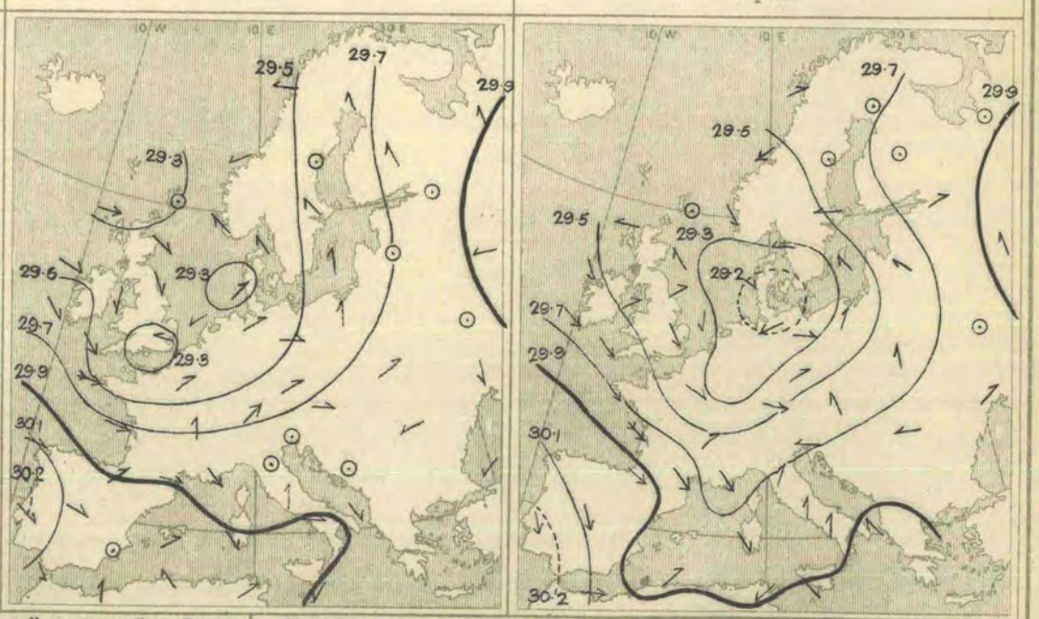
Wind Westerly over the greater part of our Islands and France, light or moderate in force generally, but strong over the Channel and Bay of Biscay. South-Westerly over the North Sea, Denmark, the Netherlands, North Germany, the Baltic, and the south of Scandinavia; Southerly at most of the Russian stations. Northerly or North-Westerly over the greater part of southern Europe and the Mediterranean, but Southerly in Algeria. Subsequently veering to the Northward in the south of Ireland, but backing to the South-Westward at the mouth of the Channel.

Barometer highest, 30·4 ins. and upwards, in an anti-cyclone lying to the westward of the Iberian Peninsula; high, 30·2 ins. and upwards in another lying over central Russia. Lowest, 29·4 ins. and less in a depression extending eastwards from the Atlantic to the central parts of Norway; shallow secondary disturbance lying over England. Depression in far north subsequently travelling away in a northerly direction, and secondary system moving eastwards to the North Sea, but new disturbance beginning to show itself off our extreme south-west coasts. Anti-cyclone off the Spanish coast moving south-eastward.

Friday, 25th April.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. / 6 p.m.



Weather at 8 a.m. fine in the west and north of our Islands, as well as over southern Europe, the Mediterranean, and some parts of Germany and Austria. Dull elsewhere, with fog over Finland and some parts of Scandinavia and Holland, and steady rain in Denmark, France, and the south-east of England. Showers of rain or hail falling later in the western and northern parts of the United Kingdom and France. Weather improving in south-east of England, but a great deal of rain falling over Germany and the Netherlands, with thunder-storms locally. Solar halos seen in the south of England in evening.

Temperature highest, 71° at Algiers, 70° at Oran, 67° at Palma and Nemours, 64° at La Calle, and 63° at Brindisi; readings above 55° in most parts of southern Europe. Lowest, 36° at Hangö, 37° at Haparanda and Kuopio, 38° at Hernösand, 39° at Helsingfors and Faerder, and 40° at Warsaw; below 45° in nearly all the more central parts of the United Kingdom. Daily maxima below 50° in many parts of England, but thermometer exceeding 65° in the south of France, exceeding 70° in many parts of Italy, and exceeding 80° at some Algerian stations.

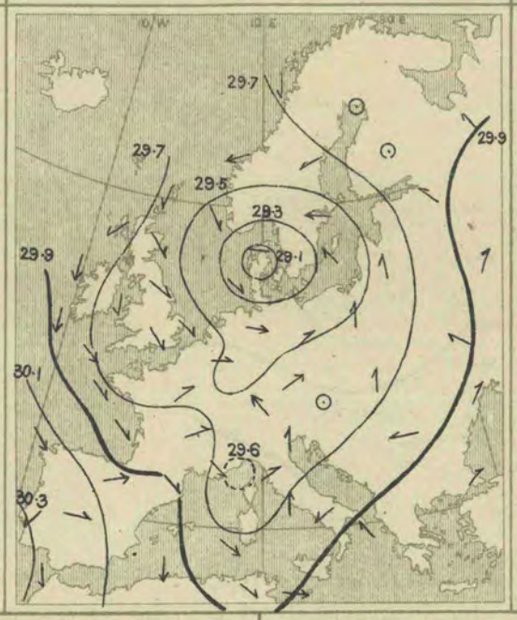
Wind very variable: light or moderate from the Westward in the northern parts of the United Kingdom, and strong from the same quarter over the Bay of Biscay and the southern part of the Channel, but North-Westerly in the south of Ireland and Northerly or North-Easterly over England. Light from between East and South over Scandinavia, Russia, and the Baltic, moderate from the South-Westward over central Europe. Chiefly Westerly in Spain and Italy, and Southerly in Algeria. Subsequently backing to the South-Westward in the north-east of England and shifting to the Eastward in Scotland, while in Ireland it became more generally North-Westerly. Strong gale from North-West reported at Rochefort.

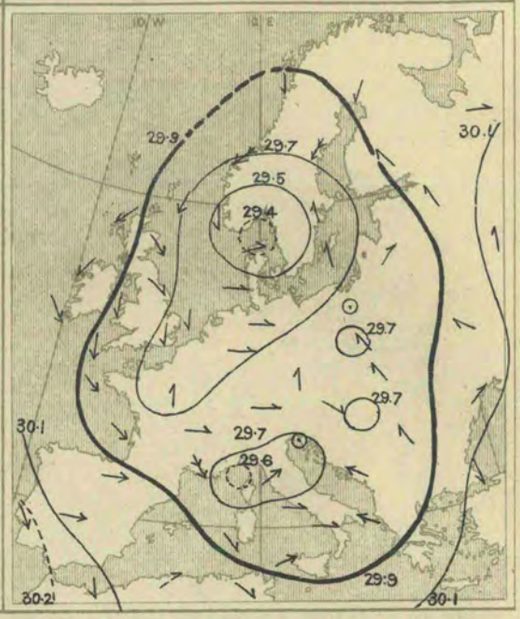
Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying to the westward of Portugal, 30·0 ins. and upwards in a larger system lying over Russia. Lowest, 29·2 ins. and less, in a small but well-marked depression lying over Wiltshire, 29·3 ins. and less in two other systems lying respectively over the eastern parts of the North Sea and to the northward of Scotland. Depression over Wiltshire subsequently moving eastwards and filling up; North Sea disturbance moving north-eastwards and becoming deeper.

Judd & Co Lte Lith. 73 & 75. Farringdon Rd & Doctors' Commons.

Saturday, 26th April.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.





Weather in morning fair in many parts of our Islands and western Europe, as well as at Constantinople and over southern Russia; cloudy or overcast in most other places, with rain in the south of Norway, Sweden, and some parts of Germany. Rain later in most parts of western Europe (heavy at Biarritz), and showers over the southern, central, and northern countries also. Thunder and lightning very prevalent over England and the west and south-west of France; dense darkness in London about mid-day.

Temperature fallen over France and Spain, changing fitfully over the British Islands—diurnal range large. Morning readings, 50° to 64° at Mediterranean stations, and exceeding 50° over south-eastern Europe; lower elsewhere. Lowest readings, 35° in the north of Sweden, 36° at Kuopio, 37° at St. Petersburg, and 38° at Bodö. Rising to 70° and more in Algeria, the south of Italy, and Austria-Hungary later, and to between 50° and 58° over the British Islands; falling suddenly over England subsequently.

Wind North-Easterly over Scandinavia, Northerly to North-Westerly over the British Islands, North-Westerly over Bay of Biscay; very variable and light over central Europe, Westerly in north Germany, and South-Easterly over the Baltic. Separate cyclonic circulation over the south of France and Gulf of Genoa. The North wind in our Islands moderating later, but the North-Easterly breeze in Sweden and Norway growing stronger.

Barometer highest, 29·8 ins. to 30·1 ins., over Russia, 29·6 ins. to 29·8 ins. and more over the United Kingdom, and 30·0 ins. to 30·3 ins. over the Iberian Peninsula. Lowest, 29·1 ins. and less, in a depression lying over Denmark, 29·6 ins. and less in a smaller system over the Gulf of Genoa, and below 29·7 ins. all over central Europe. Rising in most places later, and depression over Denmark moving slightly to the northward and filling up partially.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During nearly the whole of this week two high-pressure systems have been prevalent—one over northern and eastern, the other over south-western Europe, while low pressures have been reported to the northward and north-westward of the United Kingdom, and at times over the Mediterranean also. On some days (*e.g.*, Monday and Tuesday) the high-pressure systems were united by a well-marked "col" lying from south-west to north-east across central Europe, while on others the low-pressure system in the north-west stretched south-eastwards in the form of a "hollow," which spread over the Baltic and central Europe, while later on several small depressions came over the United Kingdom and North Sea from the westward, and rendered still more complex the conditions already prevailing in those regions. The winds have consequently been very variable in direction and occasionally strong in force; the weather has been very changeable, in most places rainy, and in France and England thunderstorms have occurred at times. Temperature has been rather low, and over our Islands and France sharp frosts on the ground have been experienced at inland stations.

At the end of the week the depressions referred to were passing eastwards, and a high-pressure system appeared to be advancing eastwards over north-western and western Europe from the Atlantic.

WEEKLY WEATHER REPORT, 1890.

The following Appendix to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 18.] *Third Series.* WEEK ENDING SATURDAY, 3RD MAY, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 104.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	66	32	54·3	39·3	46·5	1 above.	43	+14	8	− 2	285	+73	435	− 52
	1. SCOTLAND, EAST -	67	28	56·5	38·9	47·3	1 above.	50	+10	9	+ 1	351	+52	482	− 46
	2. ENGLAND, N.E. - -	69	31	54·1	38·8	46·1	2 below.	42	+ 2	9	+ 2	320	+18	389	− 84
	3. ENGLAND, EAST -	71	32	58·6	37·6	47·7	3 below.	58	+ 6	12	+ 4	403	− 2	468	− 29
	4. MIDLAND COUNTIES	70	30	60·9	37·3	48·6	1 below.	66	+11	13	+ 4	439	+ 6	476	− 17
	5. ENGLAND, SOUTH -	69	32	59·5	41·3	49·9	1 below.	58	+ 1	2	− 2	464	+ 4	305	− 64
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	63	29	57·1	40·3	48·3	1 above.	51	+ 7	5	− 2	376	+37	324	− 65
	7. ENGLAND, N.W. -	66	35	58·5	42·1	49·9	0 (average	55	+ 8	0	− 6	372	+26	299	− 79
	8. ENGLAND, S.W. -	69	28	57·6	41·8	49·4	1 below.	53	0	1	− 2	491	+ 7	245	+ 14
	9. IRELAND, NORTH -	65	29	55·9	42·0	48·6	1 below.	46	− 1	0	− 6	411	+ 2	295	− 48
	10. IRELAND, SOUTH -	67	33	56·7	42·2	49·1	1 below.	50	− 3	0	− 4	539	+10	225	− 10
	— CHANNEL ISLANDS -	68	40	57·7	45·3	51·2	0 (average)	64	+ 7	0	0	637	+87	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 104.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	4	1	3 less.	87	+ 7	18·1	− 0·7	44	41	342	−29	26	− 1
	1. SCOTLAND, EAST -	2	1	4 less.	71	+ 7	9·5	− 0·8	45	43	391	−20	29	− 1
	2. ENGLAND, N.E. - -	1	1	4 less.	61	− 2	5·9	− 2·4	61	58	367	+26	27	+ 2
	3. ENGLAND, EAST -	1	1	4 less.	67	+ 2	6·8	− 0·8	66	64	451	+13	33	+ 2
	4. MIDLAND COUNTIES-	2	2	3 less.	61	0	6·4	− 2·7	59	58	389	− 1	29	0
	5. ENGLAND, SOUTH -	1	less than ½	4 less.	63	+ 3	8·3	− 0·9	62	60	417	+ 5	30	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	2	3	3 less.	74	+ 2	16·0	− 2·6	46	44	386	+13	29	+ 2
	7. ENGLAND, N.W. - -	2	2	2 less.	70	+ 5	9·9	− 0·8	46	44	368	+ 2	27	0
	8. ENGLAND, S.W. - -	3	5	1 less.	72	+ 3	12·2	− 2·7	53	52	466	+10	34	+ 1
	9. IRELAND, NORTH -	4	6	1 more.	80	+ 2	10·6	− 1·0	36	35	395	− 1	29	0
	10. IRELAND, SOUTH -	5	11	5 more.	79	+ 5	15·2	+ 0·9	39	38	457	+ 8	34	+ 1
	— CHANNEL ISLANDS -	3	3	1 less.	75	− 1	10·5	− 1·2	75	74	534	−15	38	− 1

General Remarks.

Weather has been very fine and bright over the greater part of the Kingdom; in Ireland and the extreme north and west of Scotland, however, the conditions have been rather showery and unsettled. Thunder and lightning occurred in different parts of the country on Friday and Saturday.

Temperature was low during the early days of the period, but subsequently the daily maxima became high, although the minima continued rather low. The average for the week has varied from 1° above the mean for the time of year in Scotland to 2° or 3° below it in "England N.E." and "England E." The highest of the maxima were generally recorded on Saturday, when the thermometer rose to between 63° and 67° in Scotland, 65° and 67° in Ireland, and to between 66° and 71° over England. The lowest of the minima, which were registered on irregular dates, ranged from 28° in "Scotland E." and "England S.W.," and 29° in "Scotland W." and "Ireland N.," to 35° in "England N.W." and 40° in the "Channel Islands."

Rainfall has been more than the mean in Ireland, and especially over the northern parts of the country, but less over Great Britain; in the principal wheat-producing districts the fall was trifling.

Bright Sunshine, though very prevalent, has been less so than it was last week in Ireland; over England and Scotland, however, a very decided increase is shown. The percentage of the possible duration varied from 35 in "Ireland N." to 60 in "England S.," 64 in "England E.," and to 74 in the "Channel Islands."

Barometer and Wind.—At the commencement of the week pressure was highest in the west and lowest in the east, and the winds were consequently Northerly. These conditions soon changed, and during the remainder of the period the barometer was generally lowest in the south-west or west and highest in the north-east. Several depressions appeared over our south-western and western districts, but none of them were deep, and the winds, which generally varied between South-East and East, were of little strength.

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III.—DATA from which the SUMMARY on page 103 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	54	37	49·9	39·9	44·7	—0·1	28	6	3	0·12	—0·32	*	*
	Stornoway	60	34	52·7	39·1	45·6	—0·2	37	8	3	0·13	—0·46	57·0	53
	Wick	58	37	52·3	41·0	46·4	+0·7	35	3	6	0·18	—0·17	*	*
	Lairg ℌ	64	34	55·7	38·6	46·7	+2·0	47	10	4	0·15	—0·35	*	*
	Glencarron ℌ	66	32	58·1	38·6	47·9	+3·0	56	10	2	0·14†	—0·86	?	?
	Fort Augustus ℌ	64	32	57·1	38·6	47·4	+0·3	52	10	3	0·10†	?	30·7	29
1. SCOTLAND, E.	Nairn	67	33	57·9	40·4	48·7	+2·3	54	4	2	0·06	—0·28	*	*
	Aberdeen	57	37	50·7	39·9	45·0	—1·1	30	6	5	0·32	—0·17	44·5	42
	Braemar ℌ	60	28	54·0	36·0	44·6	+1·4	43	17	2	0·10	—0·44	37·0‡	35‡
	Ochtertyre ℌ	63	32	60·7	38·3	49·0	+2·8	65	10	2	0·06	—0·47	*	*
	Leith ℌ	63	34	58·4	40·6	49·1	+1·1	56	4	2	0·06	—0·32	*	*
	Marchmont ℌ	63	33	57·3	38·0	47·2	+1·3	53	11	1	0·06	—0·48	54·5	51
2. ENGLAND, N.E.	Alnwick Castle	56	35	50·4	37·1	43·4	—3·3	30	14	1	0·07	—0·44	*	*
	Durham	64	31	57·6	36·2	46·3	—0·8	54	16	2	0·09	—0·41	55·5	53
	Shields	61	35	51·3	39·1	44·9	—2·4	32	8	1	0·12	—0·31	*	*
	Scarborough ℳ	60	36	52·8	41·1	46·7	—1·1	37	3	1	0·02	—0·41	66·9‡	64‡
	York	69	34	60·6	36·9	48·2	—0·9	65	14	0	—	—0·42	60·3	58
	Spurn Head	55	40	51·9	42·3	46·9	—1·1	34	0	1	0·01	?	*	*
3. ENGLAND, E.	Hillington ℳ	70	33	60·5	36·4	48·1	—2·0	66	16	2	0·07	—0·35	63·9	62
	Yarmouth	54	36	51·3	40·3	45·5	—5·1	32	5	2	0·09	—0·32	*	*
	Geldeston	62	32	57·5	36·9	46·7	—3·1	54	14	2	0·18	—0·20	69·8	68
	Cambridge	71	34	64·0	36·1	49·4	—1·8	77	17	1	0·05	—0·35	64·3	63
	Rothamsted	65	33	60·4	37·3	48·4	—1·0	65	13	0	—	—0·49	*	*
	Ingatestone	64	36	57·9	38·6	47·2	—4·3	55	10	0	—	—0·38	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	68	31	61·7	35·0	47·7	—2·5	69	20	2	0·04	—0·38	52·5‡	51‡
	Loughborough	70	34	63·9	38·3	50·5	+0·5	75	10	1	0·01	—0·42	61·0‡	59‡
	Cheadle ℳ	63	37	58·8	39·1	48·5	+0·1	58	8	1	0·18	—0·34	*	*
	Churchstoke ℳ	65	30	59·2	35·9	47·1	—2·5	61	17	4	0·71	+0·31	52·2	51
	Hereford ℳ	66	33	61·6	38·1	49·3	—1·1	67	11	3	0·03	—0·39	*	*
	Cirencester	64	32	59·4	36·4	47·5	—2·1	60	16	2	0·14	—0·37	62·8	62
	Oxford	66	35	61·7	38·3	49·4	—1·1	67	10	1	0·01	—0·41	67·7	66
5. ENGLAND, S.	London	67	34	61·7	40·4	50·5	—0·9	67	4	1	0·02	—0·40	58·1‡	57‡
	Strathfield Turgiss ℳ	69	32	63·7	36·0	49·2	—0·4	76	17	0	—	—0·40	*	*
	Dungeness	56	37	53·9	42·6	48·0	—2·9	42	0	2	0·13	—0·27	64·6‡	63‡
	Hastings (St. Leonards)	63	41	57·5	44·1	50·5	—0·3	60	0	1	0·02	—0·43	70·3	69
	Southampton	69	39	61·8	41·7	51·3	+0·7	66	1	1	0·01	—0·45	63·1	62
	Hurst Castle	64	40	58·6	44·1	51·0	0·0	63	0	1	0·01	—0·40	*	*
	Stowell ℳ	68	37	59·0	40·1	49·1	—1·2	58	5	2	0·07	?	52·1‡	51‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	63	36	58·0	40·9	49·0	+1·4	54	3	3	0·39†	—0·48	*	*
	Glasgow	63	36	58·7	40·5	49·1	+2·1	56	4	1	0·08	—0·44	41·3	39
	Ardrossan	60	36	57·4	41·7	49·2	+1·9	52	1	1	0·18	—0·33	*	*
	Glenlee ℌ	62	29	56·6	36·2	45·9	—0·7	52	16	2	0·26	—0·37	*	*
	Douglas (Isle of Man)	59	39	54·9	42·0	48·1	+0·1	43	0	3	0·38	—0·12	49·7	48
7. ENGLAND, N.W.	Newton Reigny													
	Stonyhurst	62	36	57·5	39·9	48·3	—0·3	53	6	2	0·26	—0·31	43·7	42
	Blackpool ℳ	66	35	59·4	41·1	49·8	0·0	58	3	2	0·42	+0·02	53·0	51
	Manchester	64	38	59·6	40·7	49·7	+0·6	59	4	2	0·12	—0·37	*	*
	Liverpool Obsy. (Bidston)	65	40	59·4	43·1	50·9	+1·1	62	0	2	0·16	—0·22	*	*
	Llandudno ℳ	65	40	57·7	43·6	50·3	0·0	58	0	1	0·07	—0·32	39·8	39
	Holyhead	64	40	57·6	44·3	50·6	—0·1	60	0	3	0·27	0·14	*	*
8. ENGLAND, S.W.	Llandovery	68	28	62·0	35·6	48·2	—2·6	70	18	2	0·53	—0·10	*	*
	Pembroke	63	43	54·0	45·3	49·4	—0·9	52	0	4	0·69	+0·22	45·1	44
	Arlington (N. Devon)	66	35	58·1	40·1	48·7	—0·9	55	5	3	0·21	—0·48	*	*
	Cullompton ℳ	67	34	60·4	38·7	49·0	—1·9	63	9	3	0·17	—0·41	56·8	56
	Falmouth	56	40	54·1	44·7	49·2	—1·4	50	0	4	0·84	+0·16	49·2	49
	Plymouth	69	40	60·4	44·6	52·1	+0·5	71	0	2	0·60	+0·07	59·3	59
	Prawle Point	58	39	54·4	43·9	48·9	—1·6	48	0	2	0·21	?	*	*
9. IRELAND, N.	Malin Head	60	40	53·9	44·4	48·9	+0·6	48	0	3	0·36	?	*	*
	Londonderry	65	35	58·3	41·5	49·5	+0·7	55	1	3	0·25	—0·28	*	*
	Mullaghmore	61	39	54·9	44·3	49·4	—0·3	52	0	4	0·68	+0·18	*	*
	Belmullet	56	39	53·9	43 3	48·4	—1·0	45	0	6	0·76	?	*	*
	Markree Castle	63	29	56·6	39·2	47·5	—2 1	50	8	5	0·91	+0·39	33·7	32
	Brookeborough	63	31	56·5	39·8	47·8	—1·6	50	6	4	0·93	?	*	*
	Armagh	63	33	56·6	40·2	48·0	—1·0	50	5	5	0·41	—0·09	38·6	37
	Donaghadee	56	44	53·9	46·0	49·8	+0·6	55	0	3	0·20	—0·29	*	*
	Edgeworthstown	63	33	58·1	39·6	48·4	—1·8	55	7	6	0·77	+0·25	*	*
10. IRELAND, S.	Dublin	62	38	57·2	43·2	49·9	+0·1	55	0	4	0·85	+0·38	39·7	39
	Parsonstown	67	33	60·1	41·3	50·3	+0·6	61	2	5	0·43	—0·07	39·0	38
	Kilkenny	64	36	57·7	41·1	49·0	—0·9	53	3	4	0·72	+0·23	*	*
	Waterford	64	36	57·5	41·9	49·3	—1·1	52	0	5	0·93	+0·31	*	*
	Roche's Point	57	40	54·3	44·7	49·3	—1·1	51	0	5	0·95	+0·20	*	*
	Valencia	57	40	53·7	44·3	48·8	—1·6	48	0	6	2·98	+2·21	38·7	38
	Killarney	62	34	56·5	39·0	47·3	—3·0	50	8	6	1·42	?	*	*
	Foynes	61	37	56·7	42·4	49·2	—0·6	50	0	5	0·85	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	56	43	54·4	45·6	49·8	—1·5	55	0	4	0·64	+0·13	*	*
	Jersey	68	40	61·0	44·9	52·6	+1·3	74	0	1	0·03	—0·39	74·7	74

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

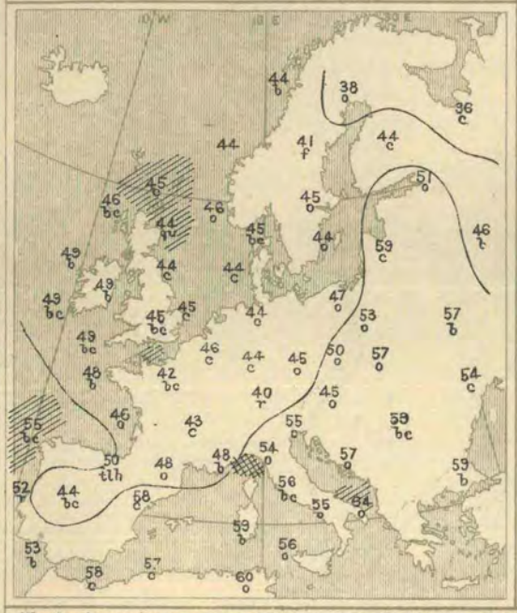
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

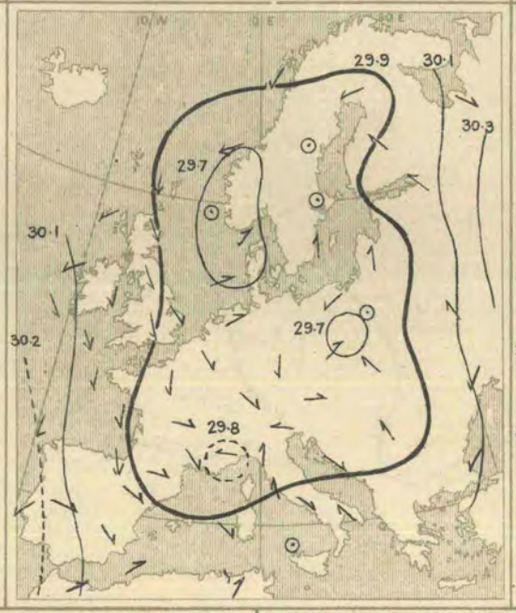
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 27th April.

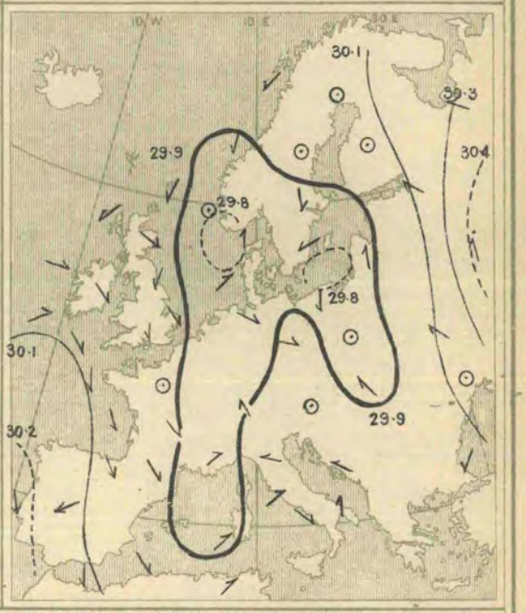
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather improving over western Europe generally, but still rather showery at our eastern stations and in some parts of France and Spain; thunder and lightning at Biarritz. Fine in Russia, dull and unsettled over northern and central Europe, with rain in several places. No important change in our Islands during day, but showers falling over the greater part of the Continent and thunderstorms occurring in the south-west of France, and also at Memel.

Temperature rising after a very cold night; ranging from 55° to 60° over south-eastern Europe, Italy, Algeria, and on the Spanish and Portuguese coasts (64° at Biarritz); below 50° over our Islands, Scandinavia, the North Sea, Germany, and France. Lowest of all, 36° at Archangel, 38° at Haparanda, 41° at Hernösand, and 44° at our own north-eastern stations; 40° at Munich and 42° at Münster and Paris, rising to between 50° and 59° in Ireland and England later, and to between 55° and 65° over France. Touching 70° in the south of Italy and at some Algerian stations only.

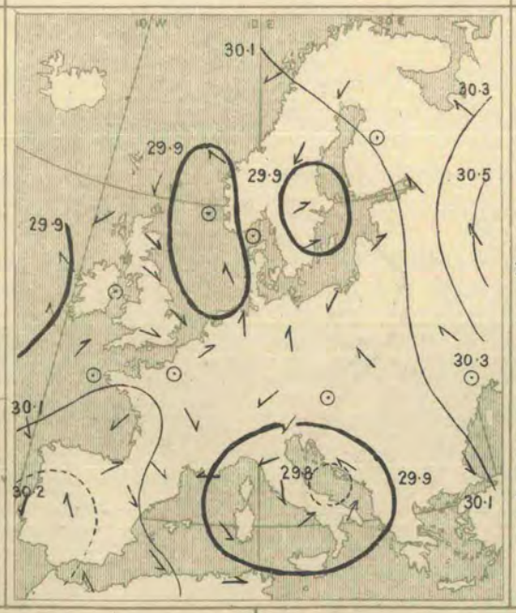
Wind Northerly over the British Islands, France, and Spain, North-Westerly and variable at the German stations, Southerly over Russia and Finland, Easterly in Lapland and Norway; moderate to fresh at the western stations, light elsewhere. Falling light in Ireland later and backing to the Westward, but Northerly wind dying out in most places.

Barometer 29·9 ins. to 30·2 ins. and more over the British Isles, Brittany, the Bay of Biscay, and Spain; 29·9 ins. to 30·3 ins. and more over Russia, and exceeding 30·0 ins. over Algeria. Lowest, 29·7 ins. and less, over Denmark and the south of Norway, and also over Poland; below 29·9 ins. over the whole of France, Germany, and Austria; beginning to fall at our western stations later, but rising over the greater part of the Continent, especially in the north.

Monday, 28th April.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright over south-eastern, southern, and south-western Europe; fair, but not settled, over the British Isles and North Sea; very variable elsewhere, with rain at Lesina. Rain falling over Ireland later (heavily at Valencia), showers at many of the northern and German stations, and thunderstorms occurring in the south-west and south of France and central Germany.

Temperature fallen rapidly in the extreme south, risen over Russia; morning reading exceeding 60° at Brindisi only, but exceeding 50° over Russia, Austria, and most parts of the Mediterranean, the Portuguese coasts, and some of the western parts of our Islands; lower elsewhere, but below 40° in the north of Sweden only. Rising to 70° at a few extreme southern stations later, to 60° and more in the south of France, and to between 50° and 60° over Ireland and England.

Wind light and extremely variable in most places, but becoming South-Easterly or Southerly on our western coasts, and continuing so over Russia; South-Easterly wind freshening in the west later and spreading somewhat to the eastward, and North-Easterly winds setting in over central Europe, while in the north of Italy wind shifted to the Westward.

Barometer highest, 30·0 ins. to 30·2 ins. over France and Spain, 30·0 ins. to 30·5 ins. over Russia. Lowest, 29·8 ins. and less, over the southern part of the Adriatic, 29·9 ins. and less over Sardinia, Italy, and Dalmatia, as well as over the eastern parts of the North Sea and in Sweden. New depression approaching Ireland later and barometer falling slightly over the United Kingdom generally; depression over the Adriatic and Mediterranean moving north-eastwards to Hungary.

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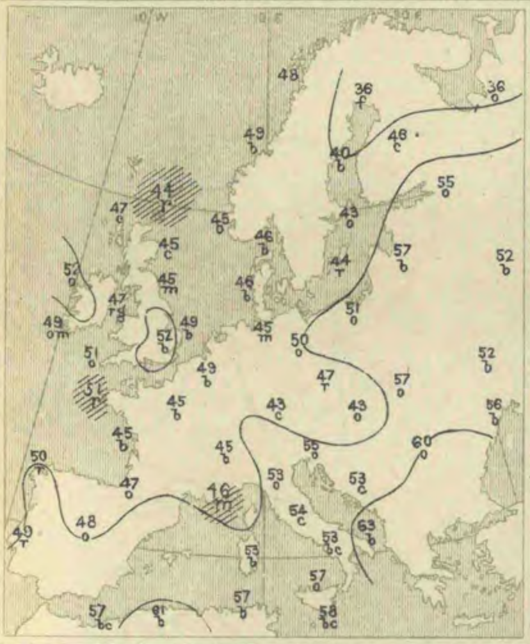
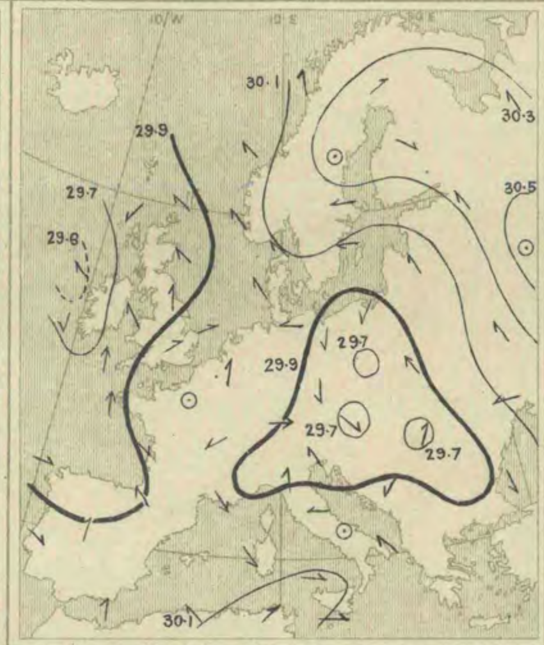
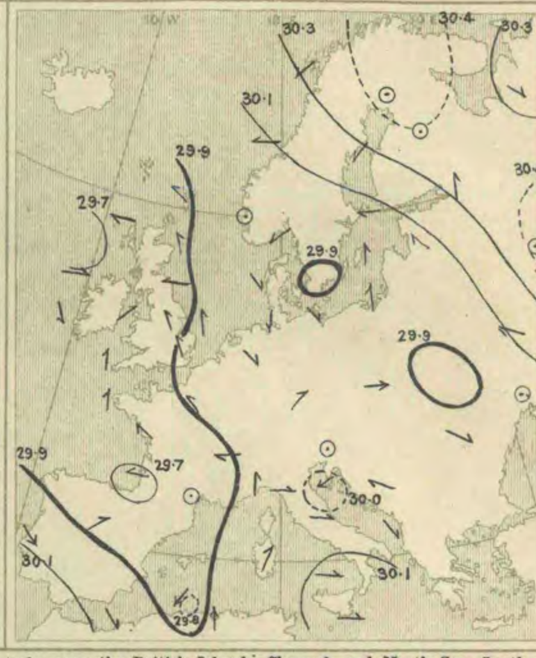
Tuesday, 29th April.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather dull and rainy over Portugal, Brittany, and the western parts of the British Islands, as well as over Germany, Poland, and at several of the Baltic stations; fine and bright over Russia, Norway, Denmark, the Netherlands, and the greater part of England, France, and the Mediterranean. Rainfall considerable in the west of Ireland during the day, slight at our other western stations and in Scotland; none over the midland and eastern counties of England. Heavy local falls at Hermanstadt and Barcelona, slight local showers over Germany.

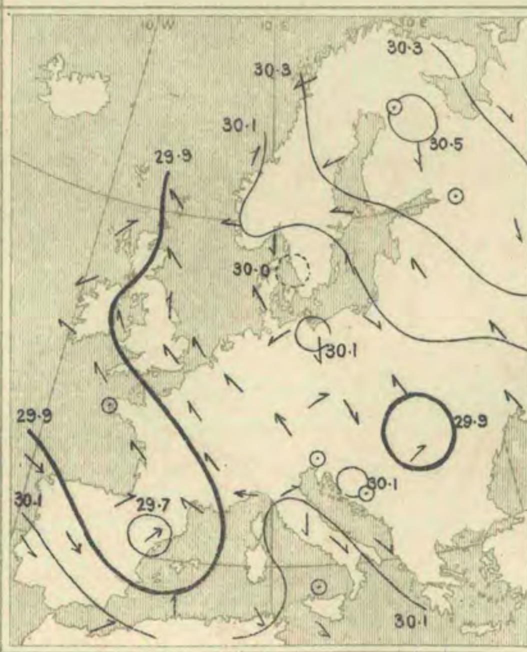
Temperature highest, 53° to 63°, at the Mediterranean stations, and exceeding 50° over Russia, Poland, and Hungary, as well as over the southern parts of our Islands; lower, as a whole, elsewhere. Lowest, 36° at Archangel and Haparanda, 40° at Hernösand, 44° at Sumburgh Head and at Copenhagen. Rising to between 55° and 61° over our Islands later, to between 60° and 70° in many parts of France and at some stations on the eastern side of the Baltic, as well as over Italy and Algeria.

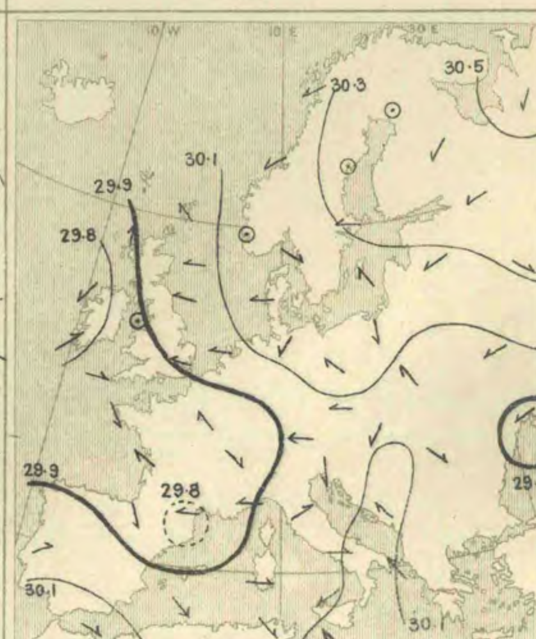
Wind Southerly to South-Easterly over the British Islands, Channel, and North Sea, South-Easterly in Norway, Easterly over the Baltic; Westerly in Portugal, and very variable elsewhere. Complex cyclonic systems of moderate winds prevalent over central Europe and the northern parts of the Adriatic and Mediterranean; falling light later and becoming less complex. Northerly winds in extreme south-west of Ireland during day, but not spreading eastwards.

Barometer highest, 30·3 ins. to 30·5 ins. over Sweden, Finland, and Russia, 30·1 ins. and more over Algeria, and 30·0 ins. and more in a narrow band stretching northwards from the western parts of the Mediterranean across France, Holland, and the eastern parts of the North Sea to Scandinavia. Lowest, 29·7 ins. and less, over the western parts of Ireland, 29·8 ins. and less in the north-west of Spain, and also in a complex depression over Austria and central Europe. Rising in Ireland later, falling in France and the north of Spain; depression over Austria filling up.

Wednesday, 30th April.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.





Weather gloomy and rainy in the west and north-west of Ireland, as well as over south-eastern Europe, and very unsettled in the south-west of France, with a thunderstorm at Barcelona. Heavy rain in the south and south-west of France subsequently, and slight falls in the extreme west and north of our Islands; fine and bright over England and the north of France.

Temperature still above 50° over Russia and the Mediterranean shores of Europe; risen to about the same value over the greater part of the British Isles and France, and exceeding 60° at Brindisi only. Lowest, 37° at Archangel, 39° at Haparanda, 44° at the Scaw and Sumburgh Head, 46° at Kuopio and Cuxhaven. Rising during the day to between 60° and 68° over England and many parts of France, to 72° at Rochefort, and to between 70° and 73° in the south of Sweden, where weather was nearly as warm as in central Algeria.

Wind Southerly and South-Easterly in our Islands, and also over the Baltic, light to moderate in force; North-Westerly (strong) over Spain, Southerly (strong) over the western parts of the Mediterranean, and Easterly (strong) at Toulon; very light and variable over the North Sea, central and south-eastern Europe. Becoming variable from the Southward in Ireland later, no important change elsewhere.

Barometer highest, 30·5 ins. to 30·2 ins. over Finland, Lapland, and Russia, 30·0 ins. to 30·2 ins. over the south-western half of Spain, and 30·0 ins. to 30·1 ins. over the North Sea, Germany, central Europe, Italy, and the south-eastern parts of the Mediterranean. Lowest, 29·9 ins. and less in a depression over Hungary, 29·8 ins. and less off our extreme western coasts, and 29·7 ins. and less in a well-marked depression near Perpignan. Rising later over Norway, Scotland, an Ireland, falling over Spain, France, and Germany.

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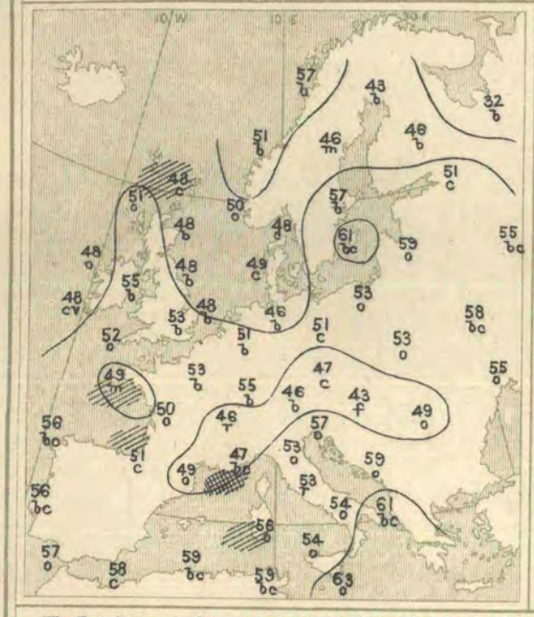
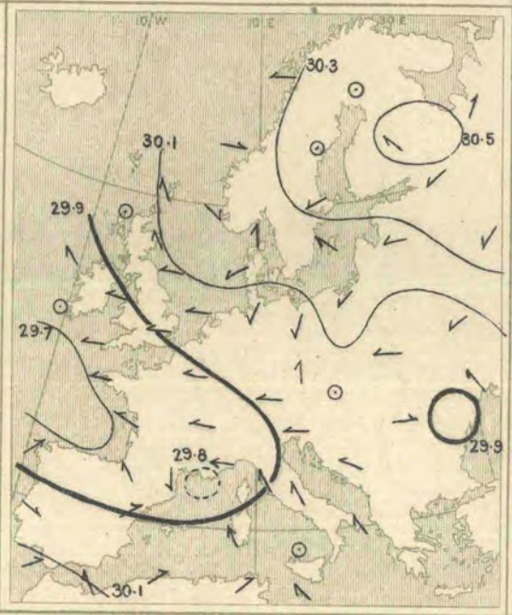
Thursday, 1st May.

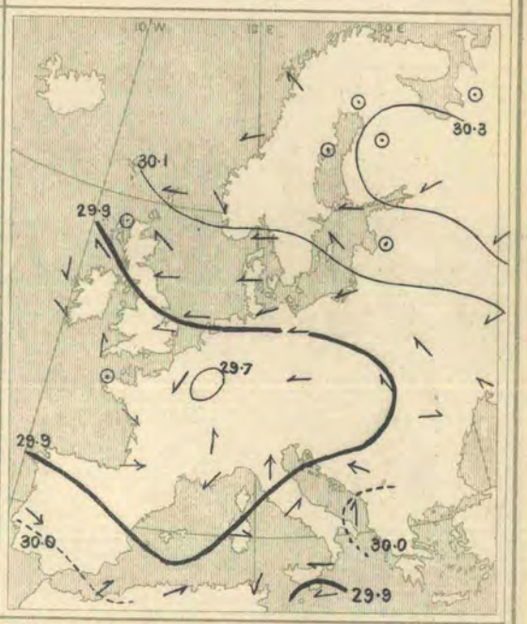
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of Europe, but hazy in some parts of the United Kingdom. Dull in the extreme north-west of our Islands, as well as in Italy, Austria, the west and south of Russia, and some parts of central France, with rain at Lyons, Turin, and Rome. Heavy rain in south of France, the north of Italy, and at Trieste during day, thunderstorm at Belmullet in night. Lunar halo seen in some parts of England.

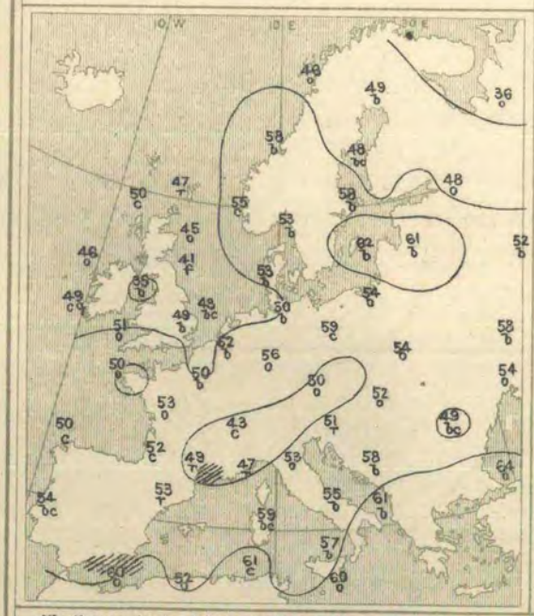
Temperature highest, 55° and upwards over the Mediterranean and southern Europe generally, as well as over the Baltic and the western part of the English Channel (Malta 63°, Brindisi, Wisby, and Memel 61°, Lesina, Algiers, and La Calle 59°). Lowest, 32° at Archangel, 42° at Swinemunde, 43° at Haparanda and Vienna, 45° at Le Mans and Toulon, and 46° at Kuopio, Hernösand, Cuxhaven, Munich, and Lyons. Subsequently rising to 65° and upwards over the central parts of the United Kingdom, reaching 70° or more in the south of Sweden, some parts of Hungary, and Algeria.

Wind light or moderate from the Eastward over the greater part of western, central, and eastern Europe, but Southerly in Scotland and Westerly over the southern parts of Scandinavia. South-Westerly or Westerly over the Iberian Peninsula, Southerly in Algeria, South-Easterly in Italy, and mainly Easterly over central Europe; strong from South-South-East at Cagliari and from East at Toulon. Subsequently shifting to the North-Westward on the west coasts of Ireland and France; the strong winds at Cagliari and Toulon dying down.

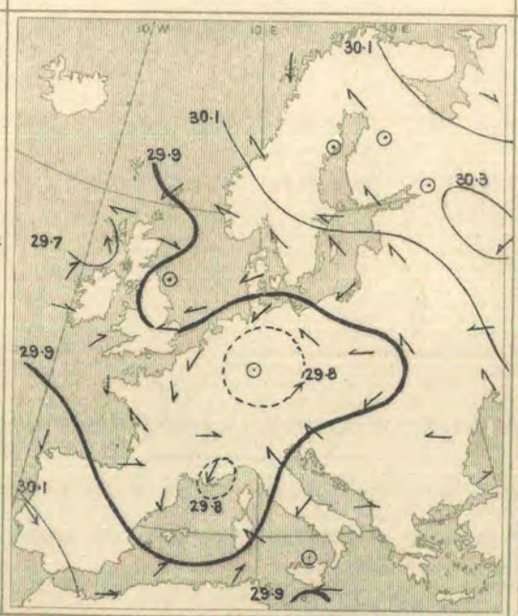
Barometer highest, 30·3 ins. to 30·5 ins. and more, in a large anti-cyclone lying over all the more northern parts of Scandinavia and Russia, 30·1 ins. and upwards in another system lying over Morocco. Lowest, 29·7 ins. and less, in a depression lying over the Bay of Biscay, 29·8 ins. and less in a small disturbance near Toulon, 30·0 ins. and less in a large shallow area lying over south-eastern Europe. Depression over Bay of Biscay subsequently moving eastwards, but new small disturbance beginning to form over Ireland.

Friday, 2nd May.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather continuing fair generally over the greater part of France, England, the Netherlands, and eastern shores of the North Sea, as well as over northern and eastern Europe; cloudy elsewhere; rainy in Ireland and on the northern shores of the Mediterranean. Continuing unsettled in last-named regions during day, and rain falling in many parts of Germany also. Thunder reported at Liverpool, Cuxhaven, and Lyons.

Temperature fallen decidedly in most parts of the British Islands. Morning readings exceeding 60° in many parts of north Germany, and also at Constantinople, Brindisi, and Malta, and exceeding 50° in most other parts of Europe and the south of England; lower elsewhere, lowest of all being 36° at Archangel, 41° at Shields and York, 43° at Yarmouth, and 46° at Cambridge, Parsonstown, and Belmullet. Rising to between 59° and 69° over the inland parts of England later, to 72° at Berlin, 73° at Wisby, and 79° at Biarritz. Daily maxima below 70°, however, in most parts of southern Europe.

Wind very variable; mainly South-Easterly over Russia, the Baltic, and Scandinavia, North-Westerly over Spain. Northerly in the south of France; very variable elsewhere—chiefly between South-East and East over the western part of the British Isles and Westerly in the Channel. Wind subsequently shifting to the South-Westward in the north of Ireland and to the Westward or North-Westward in the west of France.

Barometer highest, 30·1 ins. to 30·3 ins., in an anti-cyclone lying over Russia, Finland, and Scandinavia, 29·9 ins. to 30·1 ins. over Spain, Morocco, and western Algeria, lower over the British Islands and central Europe. Lowest of all, 29·7 ins. and less, in a depression off the north-west of Ireland, and 29·8 ins. and less in two shallower disturbances lying, one over western Germany, the other over the northern part of the Mediterranean. Depression off the Irish coasts moving northwards later; no important change taking place over Continent.

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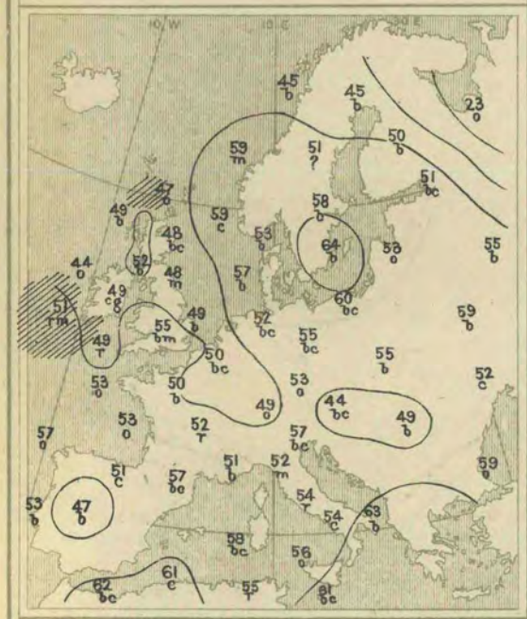
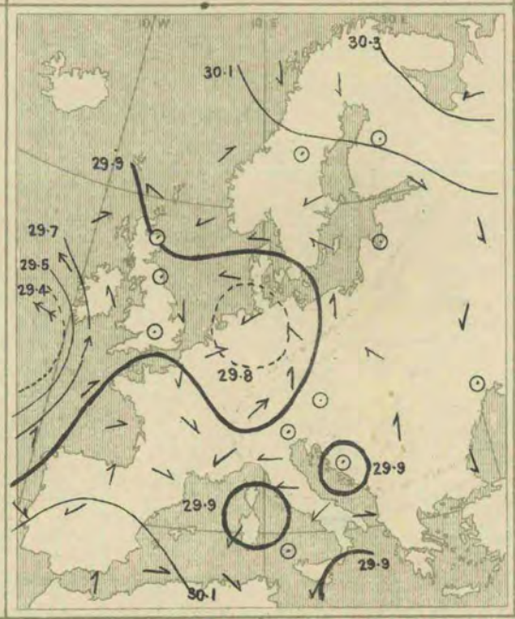
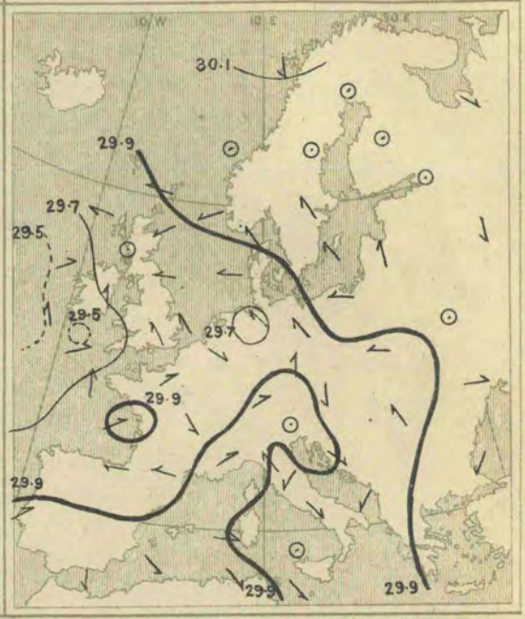
Saturday, 3rd May.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather fine over the greater part of Europe, but dull in the extreme west and south-west of our Islands, as well as at some of the French and Italian stations. Rain falling in morning at Valencia, Roche's Point, and Scilly, and also at Lyons, Rome, La Calle, and Sfax. Rainy weather afterwards setting in at most of our own western stations, as well as over southern Italy. Solar and lunar halos seen in many parts of England.

Temperature highest, 60° and upwards, at several of the Mediterranean stations, as well as over the Baltic (Wisby 64°, Memel, Barcelona, and Brindisi 63°, Oran 62°, and Algiers and Malta 61°); above 55° in some parts of our eastern counties. Lowest, 23° at Archangel, 44° at Belmullet and Vienna, 45° at Bodö, Haparanda, and Ulcaborg, and 46° at Mullaghmore. Subsequently rising to 70° or a little more in some parts of central England, as well as over the Baltic, the extreme south of France, and some parts of Algeria. Daily maxima slightly below that point over southern Europe generally.

Wind South-Easterly or Southerly in the west of our Islands and the north-west of France, with a fresh gale in the south of Ireland; variable on the east coasts of Great Britain, as well as over central France, the north of Scandinavia, and the greater part of Russia. Well-marked cyclonic circulation of light or moderate breezes prevalent over Denmark, Germany, and the Netherlands. Light North-Easterly or Easterly winds in Italy, North-Westerly breezes over eastern Algeria. Gale in south of Ireland moderating later.

Barometer highest, 30·2 ins. and upwards, over northern Russia, 30·1 ins. and upwards over Algeria and the south of Spain. Lowest, 29·4 ins. and less, in a rather deep depression lying to the south-westward of Ireland, 29·8 ins. and less in a shallow system lying over Germany, and 29·9 ins. and less in three still shallower areas lying respectively to the eastward, westward, and southward of Italy. Depression off Irish coasts subsequently travelling away in a north-westerly direction, but small secondary disturbance appearing near mouth of Bristol Channel.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week the distribution of pressure over Europe has been of a complex character, the barometric readings having been relatively high over Russia and northern Europe, on the one hand, and over the Iberian Peninsula, Morocco, and the neighbouring parts of the Atlantic, on the other. Over the British Islands, France, Germany, the Mediterranean, and Italy, however, readings have been somewhat lower, and numerous depressions have appeared; they have been of no great intensity, their movements have been erratic, but they have caused frequent falls of rain, local thunderstorms, and in some places heavy showers, especially over the southern parts of France. Intervals of bright warm weather have, however, occurred frequently, especially over Sweden and Russia, and halos have been observed very generally both in the British Islands and France.

WEEKLY WEATHER REPORT, 1890.

The following Appendix to this Report has been published:—

APPENDIX I., Part I.—Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March, *price* **4d.**
SUPPLEMENT.—Monthly Summary of Observations, January, *price* **6d.**

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 19.] *Third Series.* WEEK ENDING SATURDAY, 10TH MAY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 110.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	68	34	58·1	43·7	50·4	5 above.	59	+26	0	− 8	344	+104	435	− 64
	1. SCOTLAND, EAST	66	31	55·0	43·0	48·7	2 above.	47	+ 2	0	− 6	398	+ 57	482	− 55
	2. ENGLAND, N.E.	69	35	53·9	43·7	48·5	0 (average)	46	0	0	− 6	366	+ 21	389	− 91
	3. ENGLAND, EAST	71	35	58·8	43·0	50·5	1 below.	60	+ 2	0	− 6	463	+ 4	468	− 35
	4. MIDLAND COUNTIES	72	35	59·7	42·9	50·8	0 (average)	62	+ 1	0	− 7	501	+ 11	476	− 24
	5. ENGLAND, SOUTH	66	36	59·0	45·5	51·9	1 above.	69	+ 5	0	− 3	533	+ 13	305	− 67
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	68	39	59·3	45·7	52·2	4 above.	71	+23	0	− 5	447	+ 64	324	− 72
	7. ENGLAND, N.W.	65	36	59·5	45·0	51·8	2 above.	69	+17	0	− 4	441	+ 48	302*	− 80
	8. ENGLAND, S.W.	69	35	57·7	45·9	51·4	0 (average)	66	+ 7	0	− 1	557	+ 17	245	+ 12
	9. IRELAND, NORTH	66	36	58·3	45·6	51·5	2 above.	67	+17	0	− 4	478	+ 21	295	− 53
	10. IRELAND, SOUTH	65	38	58·3	46·2	51·9	1 above.	69	+11	0	− 3	608	+ 23	225	− 13
	— CHANNEL ISLANDS	66	45	57·7	47·7	52·4	0 (average)	73	+1	0	0	710	+100	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 110.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	3	1	4 less.	90	+ 5	18·2	− 1·0	51	46	393	−17	27	− 1
	1. SCOTLAND, EAST	4	4	1 less.	75	+ 8	9·9	− 0·8	24	22	415	−43	29	− 2
	2. ENGLAND, N.E.	5	10	6 more.	66	− 1	6·9	− 1·8	18	17	385	0	26	0
	3. ENGLAND, EAST	5	12	8 more.	72	+ 3	8·0	0·0	30	28	481	− 5	33	0
	4. MIDLAND COUNTIES	5	9	4 more.	66	+ 1	7·3	− 2·2	23	21	412	−23	28	− 1
	5. ENGLAND, SOUTH	5	9	5 more.	68	+ 4	9·2	− 0·5	28	27	445	−11	30	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	4	5	1 more.	78	+ 3	16·5	− 2·6	40	38	426	+ 8	29	+ 1
	7. ENGLAND, N.W.	4	4	0 (average).	74	+ 6	10·3	− 0·9	28	26	399*	−14	27	− 1
	8. ENGLAND, S.W.	5	9	3 more.	77	+ 4	13·1	− 2·4	29	28	495	−10	33	− 1
	9. IRELAND, NORTH	4	2	3 less.	84	+ 2	10·8	− 1·4	37	34	432	−13	30	0
	10. IRELAND, SOUTH	6	8	2 more.	85	+ 7	16·0	+ 1·1	32	31	489	−12	33	− 1
	— CHANNEL ISLANDS	5	8	4 more.	80	+ 1	11·3	− 0·8	48	47	582	−29	39	− 1

General Remarks.

Weather has been in an unsettled, changeable condition, with cloudy skies, and frequent, and in some cases heavy, falls of rain. Thunder and lightning have occurred from time to time in various parts of the Kingdom. In the Hebrides and Shetlands the weather was generally fine and bright.

Temperature has been above the mean in Scotland and Ireland, as well as in "England N.W." and "England S.," but in the other English districts it has not differed materially from the normal. The highest of the maxima, which were registered during the earlier days of the period, ranged from 65° in "Ireland S." and "England N.W." to 71° in "England E.," and 72° in the "Midland Counties." The lowest of the minima were recorded either on the 6th or 7th, and varied from 31° in "Scotland E." to 39° in "Scotland W." In the "Channel Islands" the thermometer did not fall below 45°.

Rainfall has been somewhat less than the mean in the north and east of Scotland and the north of Ireland, and about equal to it in "England N.W." In all other parts of the Kingdom a rather decided excess is shown, especially in the east of England, where the total fall for the week was about three times the average.

Bright Sunshine has been slightly more prevalent than it was last week in "Scotland N.," but in all other districts there has been a very considerable decrease. The percentage of the possible amount of duration ranged from 17 in "England N.E." and 21 in the "Midland Counties," to 38 in "Scotland W.," 46 in "Scotland N.," and 47 in the "Channel Islands."

Barometer and Wind.—During the whole of the period the barometer was highest to the north-eastward of our Islands, while shallow depressions were observed either in the south-western, southern, or south-eastern parts of the Kingdom. Towards the end of the week a well-defined but shallow disturbance moved from east to west across the southern counties of England and Ireland to the Atlantic. The winds experienced have been light or moderate in force, and generally between South-East and North-East in direction.

* This value has been altered slightly owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 109 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0 SCOTLAND, N.	Sumburgh Head	61	45	56·6	45·7	50·8	+5·5	62	0	3	0·03	—0·37	*	*
	Stornoway	61	40	58·3	43·0	50·2	+3·9	57	0	2	0·03	—0·57	74·6	67
	Wick	58	37	54·4	42·7	48·2	+2·4	43	0	6	0·25	—0·11	*	*
	Lairg 𝔖	68	34	59·9	42·4	50·6	+5·5	60	0	3	0·13	—0·38	*	*
	Glencarron 𝔖	66	38	62·8	43·8	52·7	+7·2	75	0	1	0·04†	—1·00	?	?
	Fort Augustus 𝔖	64	40	56·3	44·5	50·1	+2·6	57	0	3	0·21†	?	27·4	25
1. SCOTLAND, E.	Nairn	58	38	55·1	43·1	48·7	+1·5	47	0	3	0·28	—0·10	*	*
	Aberdeen	57	41	52·3	44·3	48·1	+1·2	43	0	6	0·53	+0·09	19·8	18
	Braemar 𝔖	66	31	58·7	40·1	48·8	+5·0	56	5	3	0·67	+0·15	36·7‡	33‡
	Ochtertyre 𝔖	65	42	57·9	44·0	50·5	+3·8	60	0	3	0·22	—0·31	*	*
	Leith	54	41	51·1	44·3	47·5	—1·2	39	0	6	0·29	—0·08	*	*
	Marchmont 𝔖	62	39	55·1	42·3	48·3	+1·9	44	0	4	0·32	—0·20	16·3	15
2 ENGLAND, N.E.	Alnwick Castle	54	43	51·3	44·6	47·8	+0·3	41	0	4	0·72	+0·22	*	*
	Durham	64	35	55·6	42·8	48·8	+0·9	48	0	7	0·79	+0·30	10·1	9
	Shields	55	39	51·0	43·3	46·9	—1·1	34	0	4	0·60	+0·18	*	*
	Scarborough 𝔄	57	39	51·3	43·4	47·1	—1·5	36	0	6	1·51	+1·09	22·0‡	21‡
	York	69	37	61·9	43·3	52·0	+2·3	70	0	4	0·87	+0·47	21·5	20
	Spurn Head	56	42	52·3	44·7	48·3	—0·4	44	0	5	1·68	?	*	*
3. ENGLAND, E.	Hillington 𝔄	69	37	60·0	42·7	50·8	+0·4	62	0	5	1·48	+1·06	24·3	23
	Yarmouth	58	41	53·1	44·6	48·6	—2·6	46	0	4	0·87	+0·46	*	*
	Geldeston	65	38	59·0	43·1	50·6	+0·2	60	0	5	1·35	+0·97	38·3	36
	Cambridge	71	38	63·6	43·0	52·7	+0·8	75	0	5	1·16	+0·76	26·7	25
	Rothamsted	64	35	57·7	40·5	48·6	—1·5	53	4	6	0·88	+0·40	*	*
	Ingatestone	63	38	59·6	44·2	51·5	—0·9	67	0	6	1·46	+1·08	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	72	35	63·6	42·3	52·3	+1·9	72	0	5	0·86	+0·44	21·5‡	20‡
	Loughborough	69	37	60·6	41·6	50·5	—0·1	61	1	5	0·75	+0·32	18·3‡	18‡
	Cheadle 𝔄	64	41	58·5	43·6	50·6	+1·5	60	0	5	0·45	—0·07	*	*
	Churchstoke 𝔄	61	38	57·9	42·2	49·6	—0·5	53	0	6	1·20	+0·79	20·2	19
	Hereford 𝔄	67	40	60·1	45·0	52·1	+1·1	71	0	5	0·58	+0·16	*	*
	Cirencester	64	37	57·9	41·9	49·4	—1·0	52	0	5	1·32	+0·84	32·9	31
	Oxford	62	39	59·3	43·6	51·0	—0·1	63	0	5	1·04	+0·63	20·4	19
5. ENGLAND, S.	London	66	42	60·4	45·1	52·3	+0·3	72	0	6	0·89	+0·49	12·4‡	12‡
	Strathfield Turgiss 𝔄	66	36	60·8	42·5	51·1	+1·0	64	0	6	1·33	+0·95	*	*
	Dungeness	58	41	55·9	46·1	50·7	—1·1	61	0	6	0·70	+0·30	32·5‡	31‡
	Hastings (St. Leonards)	63	43	57·6	46·5	51·7	+0·2	68	0	7	1·22	+0·79	29·8	28
	Southampton	66	42	61·2	46·8	53·6	+2·1	81	0	3	0·85	+0·40	36·3	35
	Hurst Castle	62	44	58·4	47·6	52·7	+1·0	75	0	4	0·76	+0·36	*	*
	Stowell 𝔄	62	37	58·7	44·1	51·0	+0·4	63	0	4	0·83	?	28·9‡	28‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	68	44	62·8	47·0	54·4	+6·2	87	0	2	0·17†	—0·71	*	*
	Glasgow	61	44	56·7	45·7	50·9	+3·4	62	0	4	0·38	—0·14	26·8	25
	Ardrossan	65	42	59·3	45·9	52·2	+4·4	71	0	5	0·72	+0·21	*	*
	Glenlee 𝔖	66	39	60·8	43·5	51·6	+4·4	67	0	5	0·86	+0·24	*	*
	Douglas (Isle of Man)	61	45	58·2	46·5	52·0	+3·7	70	0	4	0·55	+0·10	53·5	50
7. ENGLAND, N.W.	Newton Reigny	65	36	59·2	41·8	50·0	+2·1	57	1	5	0·74	+0·33	29·4	27
	Stonyhurst	64	42	59·2	44·7	51·5	+2·1	67	0	3	0·24	—0·33	26·9	25
	Blackpool 𝔄	65	43	61·1	44·5	52·3	+1·6	72	0	4	0·41	0·00	29·0	27
	Manchester	65	43	59·5	45·1	51·8	+1·6	69	0	2	0·27	—0·23	*	*
	Liverpool Obsy. (Bidston)	65	44	61·1	46·0	53·1	+2·4	78	0	2	0·43	+0·07	*	*
	Llandudno 𝔄	62	44	58·9	46·2	52·2	+1·2	71	0	3	0·49	+0·10	26·5	25
	Holyhead	61	45	57·3	47·0	51·8	+0·6	69	0	7	0·45	+0·04	*	*
8. ENGLAND, S.W.	Llandovery	69	39	61·7	44·8	52·7	+1·4	75	0	4	0·50	—0·11	*	*
	Pembroke	60	45	55·1	47·0	50·8	0·0	62	0	7	0·69	+0·24	22·6	22
	Arlington (N. Devon)	64	38	57·1	44·3	50·3	0·0	58	0	4	1·00	+0·33	*	*
	Cullompton 𝔄	66	35	59·2	43·9	51·1	—0·4	64	0	4	0·80	+0·30	33·3	32
	Falmouth	60	45	56·2	47·3	51·2	0·0	64	0	5	1·85	+1·20	26·6	26
	Plymouth	65	46	60·5	47·5	53·6	+1·1	81	0	4	0·50	0·00	33·1	32
	Prawle Point	59	46	53·9	46·7	50·1	—0·8	57	0	4	0·66	?	*	*
9. IRELAND, N.	Malin Head	56	46	53·9	46·7	50·1	+1·4	57	0	3	0·06	?	*	*
	Londonderry	66	44	63·3	45·9	54·1	+4·6	85	0	3	0·08	—0·45	*	*
	Mullaghmore	60	44	57·4	46·4	51·6	+1·1	67	0	4	0·10	—0·43	*	*
	Belmullet	60	43	56·9	47·0	51·7	+1·9	68	0	6	0·37	?	*	*
	Markree Castle	64	36	59·8	42·3	50·5	+0·3	60	0	5	0·24	—0·25	33·3	31
	Brookeborough	65	42	59·0	44·6	51·4	+1·3	66	0	1	0·09	?	*	*
	Armagh	63	44	59·0	45·6	51·9	+2·2	69	0	3	0·08	—0·39	40·1	37
	Donaghadee	60	46	56·9	47·7	52·0	+1·3	70	0	4	0·25	+0·24	*	*
	Edgeworthstown	64	38	58·1	44·0	50·6	+0·1	60	0	7	0·26	—0·26	*	*
10. IRELAND, S.	Dublin	60	41	57·2	47·0	51·8	+1·3	69	0	6	0·53	+0·09	38·9	37
	Parsonstown	65	41	58·9	44·7	51·4	+1·0	66	0	5	0·39	—0·11	32·9	31
	Kilkenny	63	44	58·6	46·4	52·1	+1·6	71	0	6	0·52	+0·09	*	*
	Waterford	63	44	58·6	47·1	52·5	+1·1	74	0	6	0·45	—0·11	*	*
	Roche's Point	61	44	56·7	46·9	51·5	0·0	67	0	5	1·45	+0·73	*	*
	Valencia	63	43	58·7	46·6	52·3	+1·5	72	0	7	1·07	+0·39	24·8	24
	Killarney	62	38	58·2	43·3	50·3	—0·5	58	0	6	1·14	?	*	*
	Foynes	64	44	59·1	47·4	52·9	+2·4	76	0	6	0·74	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	45	54·4	47·0	50·5	—1·3	60	0	5	0·88	+0·47	*	*
	Jersey	66	45	60·9	48·4	54·3	+2·1	86	0	5	0·70	+0·30	47·9	47

Stations marked 𝔄 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

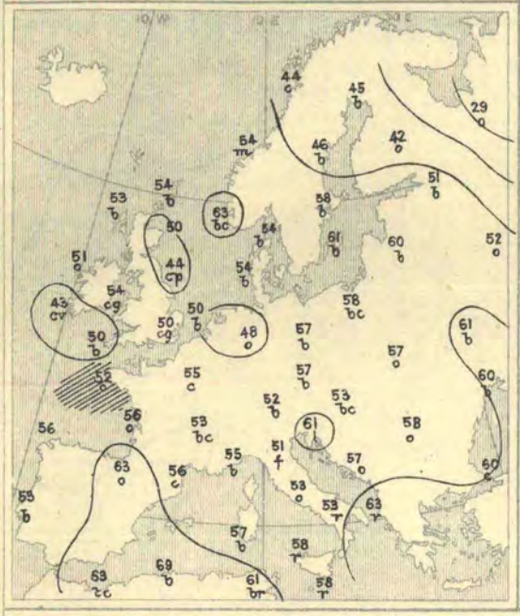
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

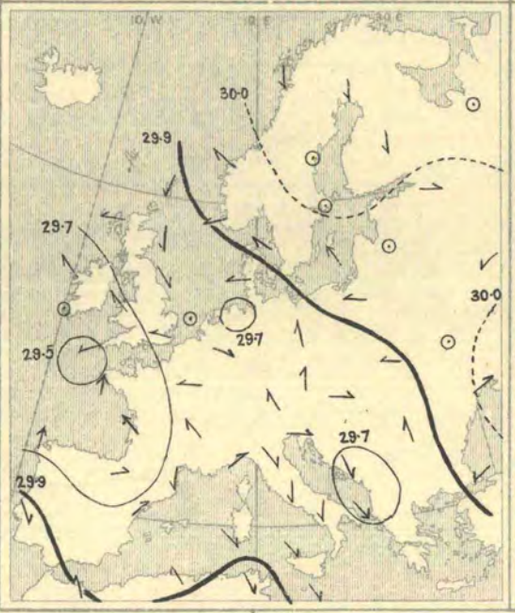
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 4th May.

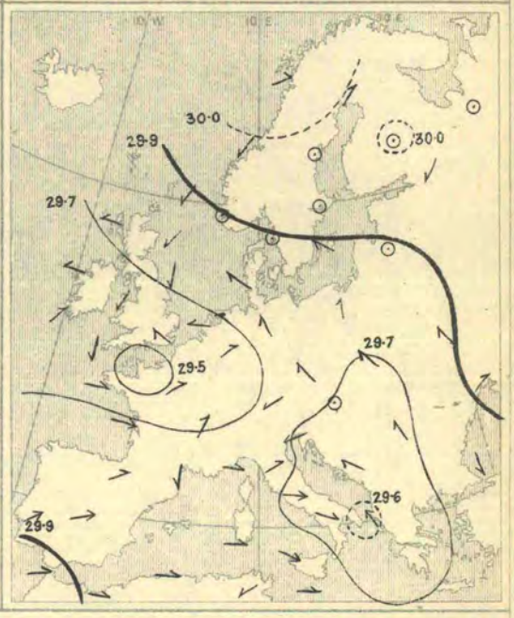
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and showery on the west coasts of our Islands and France, and rainy over the south of Italy. Fine in most other parts of Europe, but hazy at some of the Channel stations, and foggy at Wick, Roche's Point, the Helder, and Breslau. Heavy rain falling later over the Channel and the north of France, as well as in the south of Italy; largest amounts, 1·6 ins. at Brindisi and 0·91 in. at Lorient. Thunderstorm occurring at Buda-Pesth in evening.

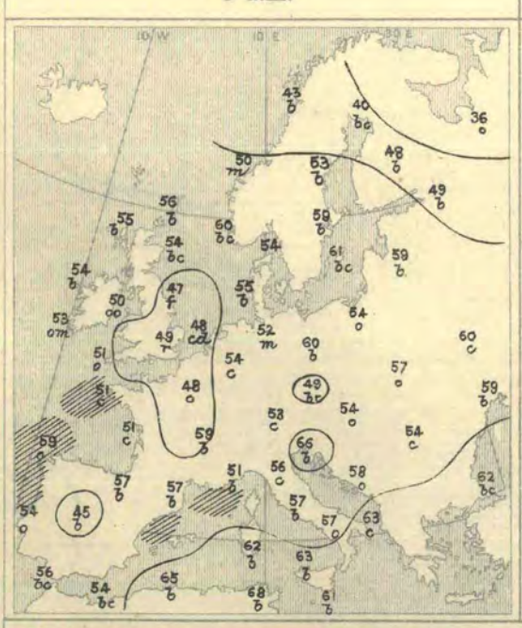
Temperature highest, 60° or a little more, at several of the Baltic and Mediterranean stations (Algiers 69°, Biarritz, Oran, and Brindisi 63°, Wisby, Memel, Trieste, and La Calle 61°). Lowest, 29° at Archangel, 42° at Kuopio, 43° at Uleaborg, 44° at Bodö and Shields, and 45° at Haparanda and the Helder. Subsequently rising a little above 70° over eastern England and the south of Norway, as well as over the greater part of southern Europe, and exceeding 75° in Algeria.

Wind light or moderate from the Eastward or South-Eastward over the greater part of the United Kingdom and France, as well as over the eastern shores of the North Sea and western Algeria; variable over central and eastern Europe; light from the Northward in the north of Scandinavia, light to fresh from the North-Westward over Italy and Tunis. Subsequently shifting to the Southward in the south of Ireland and to the Westward in the west of France.

Barometer highest, 30·1 ins. and upwards, over the south of Russia, 29·9 ins. and upwards over Algeria and the extreme south of Spain. Lowest, 29·5 ins. and less, in a complex depression lying over the extreme south-west of our Islands, 29·7 ins. and less in another disturbance lying over the southern parts of the Adriatic, 29·8 ins. and less in a small system lying near Malta. Depression off our south-west coasts subsequently moving eastwards along the Channel and barometer rising at some of our western stations. No important change occurring on Continent.

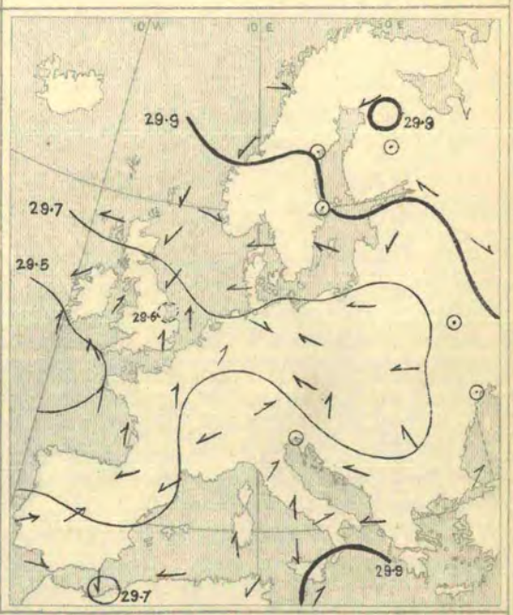
Monday, 5th May.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather cloudy or overcast over the greater part of Ireland and England, with rain at many of our southern stations; dull also in Portugal and the eastern parts of Germany and France. Fine and bright at some of our northern stations, as well as over Scandinavia, Russia, and the greater part of southern Europe. Weather improving later in the south and south-east of England, but showers falling at our western and northern stations, and thunderstorms occurring in some parts of France and Germany. Solar halo at Jersey in evening.

Temperature highest, 60° and upwards, at several of the Baltic, Mediterranean, and Adriatic stations (La Calle 68°, Trieste 66°, Algiers 65°, Palma 64°, and Brindisi and Palermo 63°). Lowest, 36° at Archangel, 40° at Haparanda, 42° at Uleaborg, 43° at Bodö, 45° at Oxford and Madrid, and 46° at Spurn Head and Loughborough. Daily maxima over our Islands lower than on previous day, the highest readings being 63° at Parsonstown and Valencia and 62° at Ardrossan. Thermometer exceeding 70° in nearly all parts of southern Europe, and rising to 86° at Biskra and 88° at Laghouat.

Wind light from the Eastward over the greater part of the United Kingdom, as well as over Denmark, north Germany, the Baltic, and the south of Scandinavia; moderate from South or South-West over the English Channel and Bay of Biscay, and from West in Portugal; light from South-West or West over Italy and central France. Variable over Germany, Austria, and Russia, and also in Algeria. Subsequently shifting to the Southward over the greater part of England.

Barometer highest, 30·0 ins. and upwards, over Lapland and Finland, and also over the south of Russia, 29·9 ins. and upwards over nearly the whole of Scandinavia and Russia, as well as in the extreme south of Spain. Lowest, 29·5 ins. and less, in a depression lying over the south-west of England and the western part of the Channel, and also in two smaller systems lying respectively over the south of Ireland and near the mouth of the Thames. Depressions all moving westwards later, and barometer rising on our southern coasts.

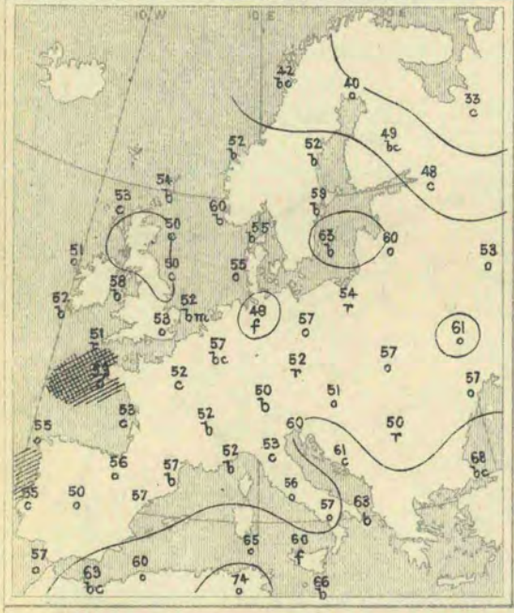
Judd & Co Lte Lith. 73 & 75. Farringdon Rd & Doctors' Commons

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 6th May.

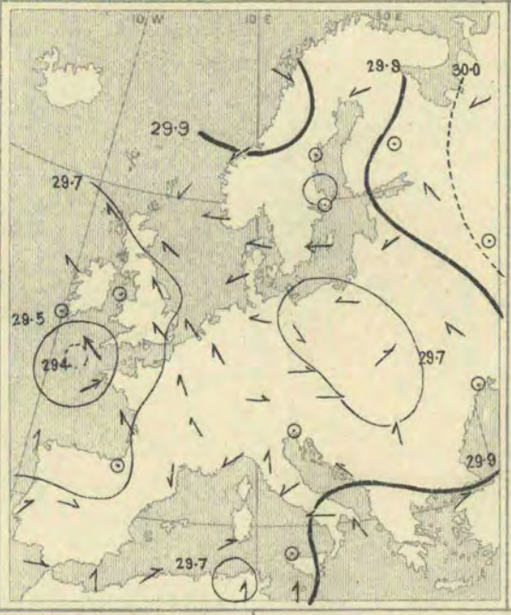
Temperature and Weather.

8 a.m.

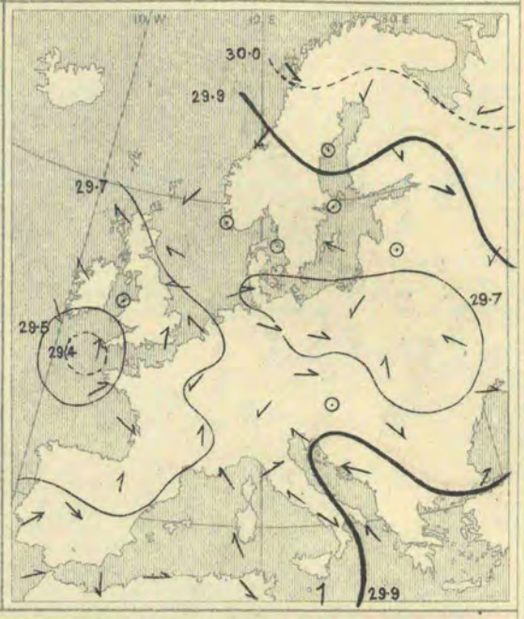


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of western and northern Europe, as well as over the Adriatic, but showery in the north of Ireland and the south-west of England. Dull in Germany, Austria, and the south of Russia, as well as in Spain and Algeria, with rain at Neufahrwasser, Prague, and Hermanstadt. Thunder and lightning occurring in evening in many parts of our Islands and France, and heavy rain falling at Roche's Point.

Temperature highest, 74° at La Calle, 68° at Constantinople, and 66° at Palermo, Malta, and Sfax; 60° and upwards at most of the Mediterranean stations, as well as over the Baltic and the southern parts of central Russia. Lowest, 33° at Archangel, 40° at Haparanda, 42° at Bodö, 43° at Ulcaborg, 47° at Leith, 48° at St. Petersburg, Nairn, and Malin Head. Subsequently rising to between 60° and 65° over the eastern and central parts of England to 70° or more over Belgium, central France, and southern Europe generally, and to between 80° and 95° in Algeria.

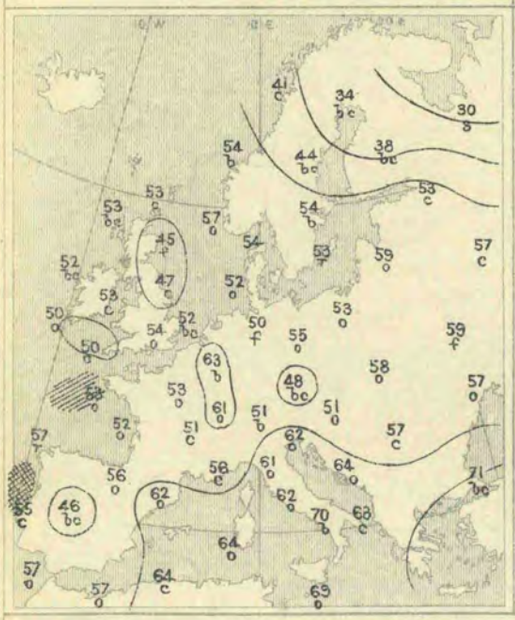
Wind South-Easterly over the greater part of our Islands and France; light or moderate in force generally, but fresh at the mouths of the Bristol and English Channels. Easterly over Denmark and the Baltic, North-Westerly or Westerly in Germany; light from the South-Eastward in Russia, calm or variable in Scandinavia and Finland. Southerly or South-Westerly in Spain and Algeria. Subsequently becoming variable in France, but little change occurring elsewhere.

Barometer highest, 30·0 ins. and upwards, in a large anti-cyclone lying over Russia. Lowest, 29·4 ins. and less, in a small depression lying to the south-westward of our Islands, 29·7 ins. and less in a large shallow area over eastern Germany and Austria, as well as in a smaller system near La Calle. Very small and shallow disturbance appearing later over the north-east of France.

Wednesday, 7th May.

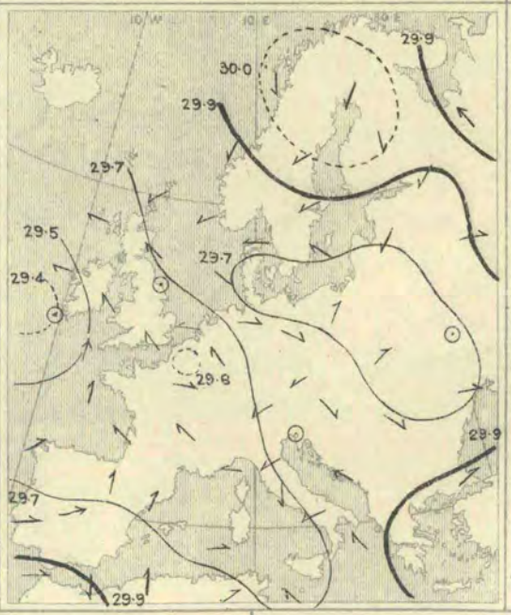
Temperature and Weather.

8 a.m.

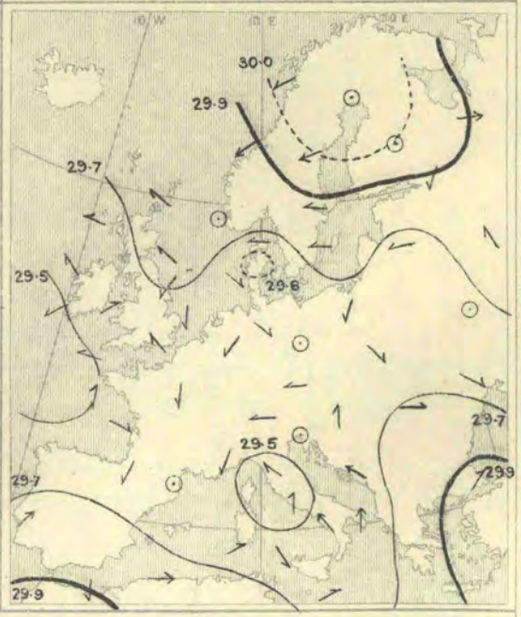


Barometer and Wind.

8 a.m.



6 p.m.



Weather fair over the greater part of our Islands, and also over Scandinavia, Finland, the Netherlands, western and southern Germany, Algeria, and the south of Italy, but showery at some of our south-western stations, and foggy in the east of Scotland. Dull elsewhere, with rain at Wisby and Copenhagen, as well as Corunna and Nemours, and snow at Archangel. Thunder and lightning occurring during day in many parts of the United Kingdom and France. Heavy fall of rain (1·8 ins.) occurring at Turin.

Temperature highest, 60° to 70°, over the Mediterranean and the Adriatic, as well as in Turkey (Constantinople 71°, Naples 70°, Malta 69°, Lesina, Cagliari, and Algiers 64°, and Brindisi 63°). Lowest, 30° at Archangel, 41° at Bodö, 44° at Herrösand, 45° at Aberdeen, and 46° at Leith and Madrid. Thermometer rising during day to between 60° and 65° over central England, and also in the south of Scandinavia, to between 65° and 70° over France and to more than 70° in Italy and Algeria, highest reading of all being 77° at Leghorn, Rome, Brindisi, and Sfax.

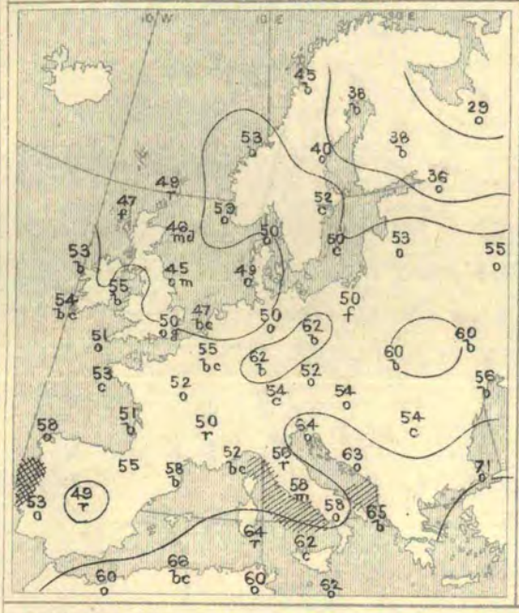
Wind light or moderate from the South-Eastward over the greater part of our Islands and France, and from the Eastward or North-Eastward over Scandinavia and Finland. South-Westerly over the Iberian Peninsula; chiefly Westerly over central Europe. South-Easterly over the Adriatic, North-Easterly over the more eastern parts of Italy; variable in Algeria. Subsequently becoming variable in the south of England, but blowing strongly from the Westward at some of the Algerian stations.

Barometer highest, 30·0 ins. and upwards, in an anti-cyclone lying over the more northern parts of Scandinavia and Finland, 29·9 ins. and upwards over Turkey and Asia Minor, and also over Morocco. Lowest, 29·4 ins. and less, in a depression lying to the south-westward of Ireland, and also in a shallow irregularly-formed area extending south-eastwards from Denmark to the extreme south-west of Russia. Small and very shallow disturbance lying over the north-east of France nearly all day: new depression appearing in evening over Corsica and the north of Italy.

Judd & Cº Ltd Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

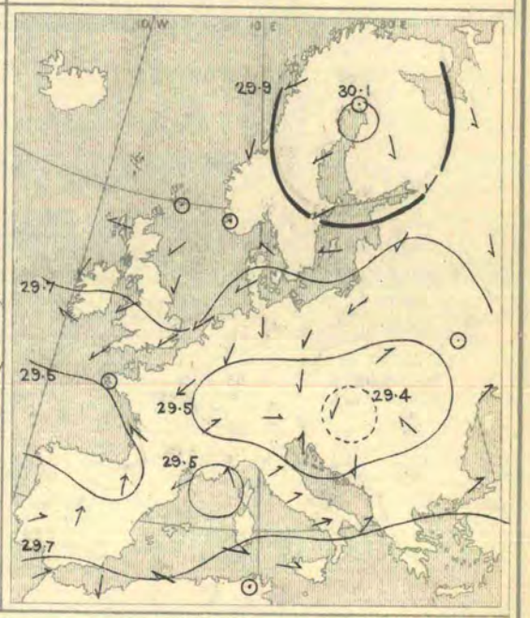
Thursday, 8th May.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine in the west and south-west of our Islands, as well as in the south-west of France, the north of Scandinavia, Finland, and the greater part of central Europe. Dull elsewhere, with fog or mist in several parts of Great Britain and France, and rain in the east of Scotland and the extreme south-east of England, as well as at Lyons, Madrid, and Cagliari. Thunderstorms and heavy rain occurring later in Wales and at some of the French stations.

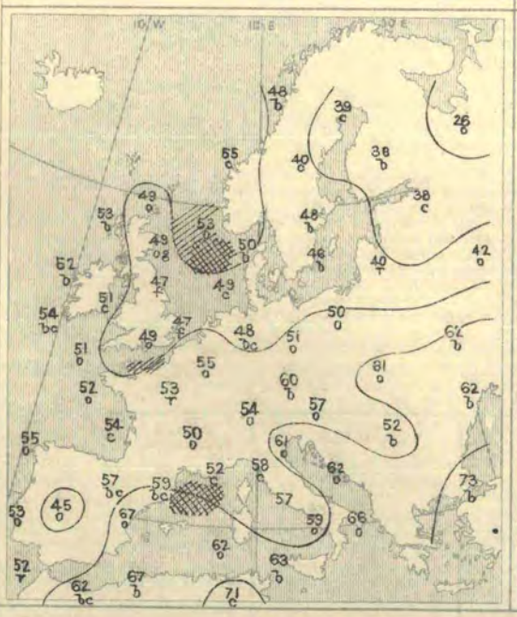
Temperature highest, 60° and upwards, over Turkey, the Adriatic, and the Mediterranean, as well as in some parts of western Germany (Constantinople 71°, Barcelona, Brindisi, and Algiers 65°, Buda-Pesth and Cagliari 64°, and Lesina 63°). Lowest, 29° at Archangel, 36° at St. Petersburg, 38° at Haparanda and Kuopio, 40° at Hernösand, 43° at Le Mans and Limoges, and 44° at Leith. Daily maxima a little above 60° over the central parts of England and Ireland, above 70° at some of the French and German stations, and above 70° in Algeria and the southern parts of Spain and Italy.

Wind light or moderate from the Eastward or North-Eastward over our Islands and the greater part of northern and central Europe; Southerly or South-Easterly over the Bay of Biscay and the north of Spain. Light from the North-Westward over central France, moderate from West or South-West in Italy, variable over Austria and the south of Russia, light from South-Westward in Algeria. No important change occurring over western Europe during the day, but Westerly wind blowing strongly at some of the Italian stations.

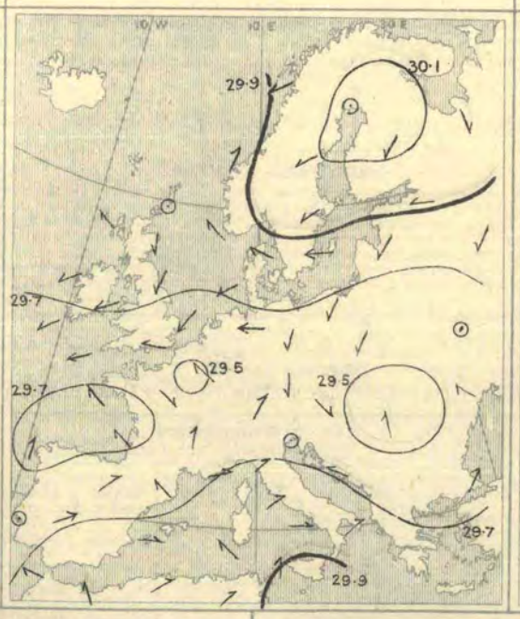
Barometer highest, 30·1 ins. and upwards, over the Gulf of Bothnia and the north of Sweden, 29·9 ins. and upwards over central Algeria. Lowest, 29·4 ins. and less, in a depression lying over the north-west of Spain, and also in another disturbance over northern Italy and the Tyrol; small and very shallow disturbance lying near Cape Gris Nez. Slight rise of barometer taking place over our Islands during day. Depression over the north-west of Spain partially filling up.

Friday, 9th May.

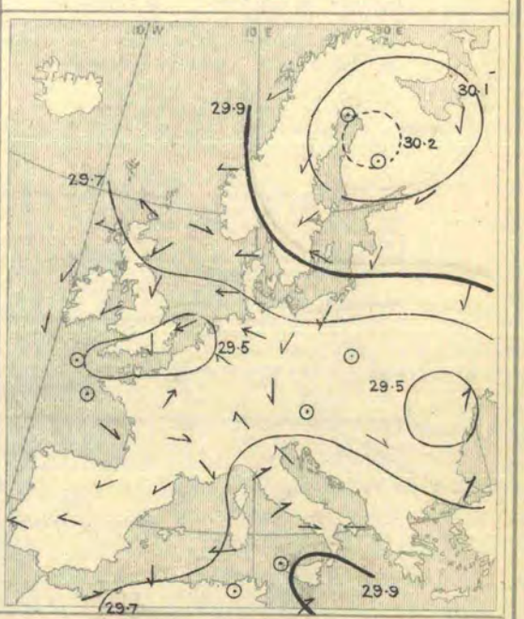
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Ireland, as well as in Scandinavia, Finland, Denmark, southern Austria, and Algeria. Cloudy or overcast elsewhere, with fog on the east coast of England, passing showers in the south-west of our Islands, and rain at Riga, Paris, Lorient, and San Fernando. Steady rain setting in later over nearly the whole of England, and also in the south of Ireland. Thunder occurring at Yarmouth and the Helder, as well as at some of the French stations.

Temperature highest, 60° and upwards, over the Mediterranean, the Adriatic, and the shores of the Black Sea (71° at La Calle, 67° at Barcelona and Algiers, 66° at Brindisi, and 63° at Leghorn and Palermo). Lowest, 26° at Archangel, 36° at Kuopio, 38° at St. Petersburg, 39° at Haparanda and Ulcaborg, and 40° at Hernösand and Riga, below 50° over central Spain. Daily maxima below 55° in many parts of Great Britain, but above 65° over the central and southern parts of France, above 70° in Italy, and above 80° in Algeria and Sicily, the highest reading of all being 88° at Biskra and Laghouat.

Wind North-Easterly over the greater part of northern and north-western Europe; light or moderate in force generally, but fresh or strong on the south and south-east coasts of England. Moderate from the South-Westward or Westward over Italy, Spain, and the south of France, light from the Southward in Algeria. Variable over central and eastern Europe, and also in the north of Scandinavia. Subsequently shifting to the South-Westward over the eastern parts of the Channel and falling light.

Barometer highest, 30·1 ins. and upwards, over Finland and Eastern Lapland, 29·9 ins. and upwards over Sicily and the neighbouring parts of the Mediterranean. Lowest, 29·5 ins. and less, in two large but shallow depressions lying respectively over Austria and the Bay of Biscay, and also in a smaller system lying over the north-east of France. Depressions over Bay of Biscay and north-east of France subsequently moving north-westwards, the disturbance in latter region reaching the south-east of England in afternoon.

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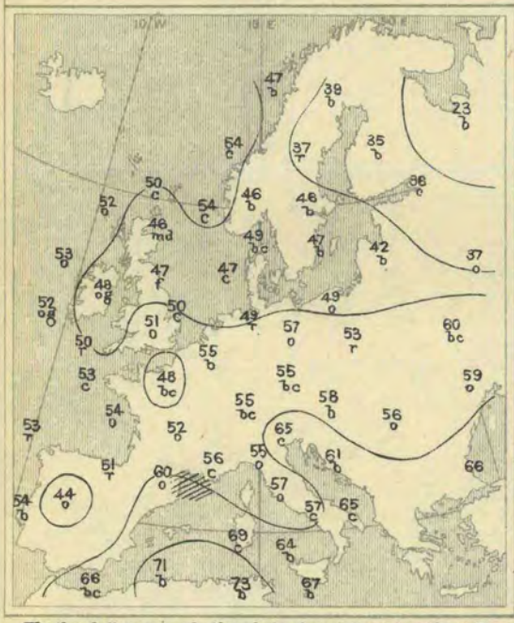
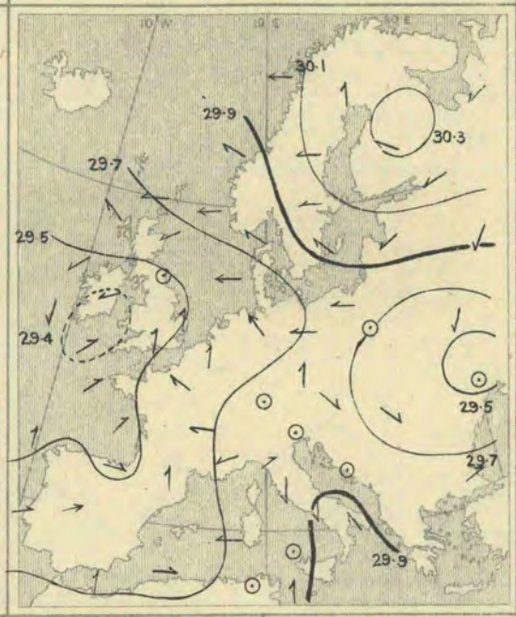
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 10th May.

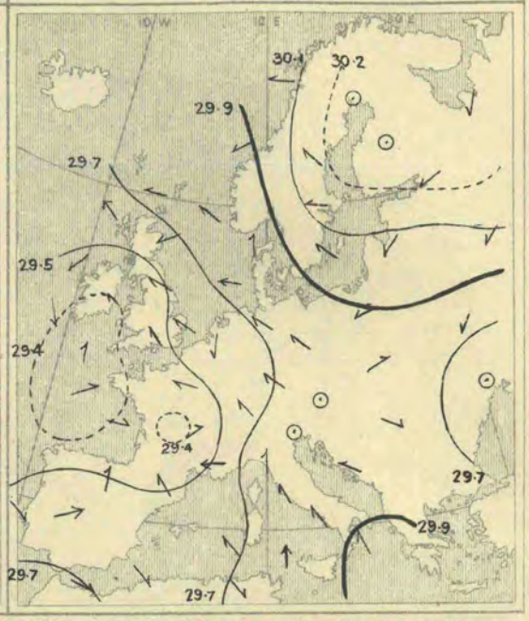
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull over nearly the whole of western and southern Europe, with mist in many parts of the United Kingdom, and rain on our south-west and north-east coasts, as well as in the south-west of France and the north of Spain. Fine in most of the northern, eastern, and central countries, as well as in Algeria and the south of Italy, but foggy at Breslau and Cracow. Decided improvement taking place later over the eastern and southern parts of England, but thunderstorms and heavy rain occurring at some of the French stations.

Temperature highest, 60° and upwards, over the Mediterranean, the Adriatic, and south-eastern Europe (Tunis 73°, Algiers 71°, Cagliari 69°, Malta 67°, and Oran and Constantinople 66°). Lowest, 23° at Archangel, 35° at Kuopio, 36° at St. Petersburg, and 37° at Hernösand and Moscow; below 50° in many parts of the United Kingdom, only 44° at Madrid. Daily maxima over our Islands mostly below 60°, but thermometer exceeding 70° over southern Europe and exceeding 80° in Sicily and Algeria (Palermo 90°, La Calle 95°).

Wind light or moderate from the Eastward over the northern parts of our Islands and of Europe generally; North-Easterly or Northerly in Ireland, moderate from the South-Westward in Spain, and from the Southward over France and the greater part of England. Light and variable over Algeria, Italy, and central and eastern Europe. Subsequently backing to the South-Eastward over England; cyclonic circulation of light winds appearing over France.

Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over Finland, 29·9 ins. and upwards over the south of Italy. Lowest, 29·4 ins. and less, in a depression lying over Wales, the south-west of England, and the neighbouring Channels, 29·5 ins. and less in another disturbance over the south of Russia. Former system moving south-eastwards later and partially dispersing, but new disturbance beginning to appear over central France.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week two large high-pressure systems have been observed, one lying over Russia, Finland, and the northern parts of Scandinavia, the other to the south-westward and southward of the area embraced by our charts—its northern border being only just visible over the south-western parts of Spain, Algeria, and, at times, over the south-eastern part of the Mediterranean. In the regions covered by these high-pressure systems the weather has been fair as a whole and quiet, but at times foggy in places. Over north-western, western, and central Europe a large and complex low-pressure system of little intensity has prevailed, and within its limits several minima have been observed, moving in different directions. These regions have consequently been subject to frequent and considerable falls of rain, local thunderstorms (some of them heavy), and unsteady temperature. Over the eastern and northern countries, including the British Islands, the wind has been mainly South-Easterly and Easterly, in the west and south it has been mainly South-Westerly to North-Westerly, while over the central countries it has been variable. Its force has been moderate and gales have been conspicuous by their absence.

Towards the close of the week the northern high-pressure system was increasing in intensity, and the Easterly breeze becoming stronger over the Baltic and North Seas.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of each Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
May 3rd	Newton Reigny	63	30	57·9	36·9	46·9	−0·4	56	14	3	0·24	−0·17	59·0	56

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 20.] *Third Series.* WEEK ENDING SATURDAY, 17TH MAY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 116.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	64	36	54·8	42·8	48·4	2 above.	45	+ 8	0	− 8	389	+111	435	− 70
	1. SCOTLAND, EAST	66	36	57·6	42·8	49·8	2 above.	55	+ 4	0	− 6	453	+ 62	482	− 60
	2. ENGLAND, N.E.	67	40	58·5	45·2	51·5	2 above.	67	+14	0	− 5	433	+ 34	389	− 93
	3. ENGLAND, EAST	70	38	62·5	44·8	53·1	1 above.	78	+13	0	− 5	541	+ 13	468	− 38
	4. MIDLAND COUNTIES	70	37	60·9	44·7	52·3	1 above.	72	+ 5	0	− 6	573	+ 13	476	− 27
	5. ENGLAND, SOUTH	70	41	62·1	47·5	54·3	2 above.	86	+15	0	− 2	619	+ 22	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	64	39	56·8	45·4	50·8	2 above.	62	+ 8	0	− 4	509	+ 70	324	− 74
	7. ENGLAND, N.W.	65	39	57·2	45·6	51·0	0 (average)	63	+ 5	0	− 3	504	+ 49	302	− 81
	8. ENGLAND, S.W.	68	36	58·2	46·1	51·8	0 (average)	69	+ 4	0	− 1	626	+ 16	245	+ 12
	9. IRELAND, NORTH	65	34	56·0	43·9	49·6	1 below.	53	− 3	0	− 3	531	+ 15	295	− 54
	10. IRELAND, SOUTH	61	36	56·0	43·7	49·5	2 below.	53	−11	0	− 2	661	+ 7	225	− 14
	— CHANNEL ISLANDS	66	44	58·8	48·8	53·4	1 above.	80	+10	0	0	790	+105	71	− 22

Rainfall.

	DISTRICTS. (See p. 116.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	7	2 more.	96	+ 7	18·9	− 0·8
	1. SCOTLAND, EAST	6	11	6 more.	81	+10	11·0	− 0·2
	2. ENGLAND, N.E.	4	8	3 more.	70	0	7·7	− 1·5
	3. ENGLAND, EAST	3	2	3 less.	75	+ 3	8·2	− 0·2
	4. MIDLAND COUNTIES	4	7	2 more.	70	+ 2	8·0	− 2·0
	5. ENGLAND, SOUTH	3	4	1 less.	71	+ 5	9·6	− 0·5
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	7	17	13 more.	85	+ 6	18·1*	− 2·0*
	7. ENGLAND, N.W.	6	11	6 more.	80	+ 8	11·4	− 0·2
	8. ENGLAND, S.W.	4	6	1 more.	81	+ 6	13·7	− 2·3
	9. IRELAND, NORTH	6	6	1 more.	90	+ 4	11·4	− 1·3
	10. IRELAND, SOUTH	6	10	5 more.	91	+ 9	17 0	+ 1·6
	— CHANNEL ISLANDS	5	6	3 more.	85	+ 3	11·9	− 0·6

Bright Sunshine.

	DISTRICTS. (See p. 116.)	For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	29	26	422	−35	27	− 2
	1. SCOTLAND, EAST	31	28	446	−61	29	− 3
	2. ENGLAND, N.E.	35	32	420	−21	27	− 1
	3. ENGLAND, EAST	49	45	530	−17	34	0
	4. MIDLAND COUNTIES	43	40	455	−31	29	− 1
	5. ENGLAND, SOUTH	55	52	500	−10	31	− 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	39	36	465	− 4	30	0
	7. ENGLAND, N.W.	34	31	433	−36	28	− 1
	8. ENGLAND, S.W.	50	46	545	−19	34	− 1
	9. IRELAND, NORTH	40	37	472	−24	30	− 1
	10. IRELAND, SOUTH	36	34	525	−33	33	− 2
	— CHANNEL ISLANDS	71	67	653	−24	41	− 1

General Remarks.

Weather has been generally fair over the more south-eastern parts of the Kingdom, but unsettled and rainy in the west and north. Thunderstorms were experienced in many parts of England and the Channel on the 11th and 12th.

Temperature has been a little below the mean over Ireland, while in "England S.W." and "N.W." it has just equalled the normal; in all other parts of the country a slight excess is shown. The highest of the maxima, which were registered on rather irregular dates, ranged from 61° in "Ireland S." to 68° in "England S.W." and to 70° over the southern, midland, and eastern parts of England. The lowest of the minima were recorded in most places on the 15th, and varied from 34° in "Ireland N.," and from 36° in "Scotland N. and E.," "Ireland S.," and "England S.W.," to 41° in "England S." and to 44° in the Channel Islands.

Rainfall has been less than the mean in the south and east of England, but more than the mean in all other districts, especially in the north-west and north.

Bright Sunshine has been more prevalent than it was last week in most districts, the percentage of the possible duration having ranged from 26 in "Scotland N." and 28 in "Scotland E." to 52 in "England S." and to 67 in the Channel Islands.

Barometer and Wind.—At the commencement of the period a shallow depression was shown off the south of Ireland and another over the east of England. The former gradually dispersed, while the latter moved north-north-westwards and passed away to the north-westward of Scotland. During the prevalence of those systems light to moderate breezes from between South and South-East were general over our Islands, but on the 13th North-Westerly winds had set in over Ireland and England. From this date the wind gradually backed to West and South. On the 16th a rather complex depression moved northwards over the St. George's Channel, and on the 17th a deeper disturbance was approaching Ireland from the westward and causing the Southerly wind to increase considerably in force on our western coasts.

* This value has been altered slightly owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 115 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0 SCOTLAND, N.	Sumburgh Head ⚓	54	39	51·3	43·4	47·1	+1·1	36	0	5	0·93	+0·54	*	*
	Stornoway ⚓	58	41	54·4	44·1	48·9	+2·0	48	0	6	0·22	—0·38	44·5	39
	Wick ⚓	59	41	55·9	42·9	49·0	+2·3	49	0	7	1·04	+0·68	*	*
	Lairg ⚓ S	61	36	56·5	40·7	48·1	+1·9	48	4	6	0·47	—0·05	*	*
	Glencarron ⚓ S	64	38	55·1	42·3	48·3	+1·8	44	0	6	0·71†	—0·37	?	?
	Fort Augustus ⚓ S	60	40	55·7	43·2	49·1	+0·8	50	0	6	0·78†	?	13·7	12
1. SCOTLAND, E.	Nairn ⚓	63	36	59·0	43·4	50·7	+2·5	61	0	5	0·29	—0·10	*	*
	Aberdeen ⚓	60	40	55·6	43·4	49·1	+1·4	50	0	6	1·71	+1·29	33·9	30
	Braemar ⚓ S	59	37	53·7	40·6	46·8	+1·8	39	4	6	0·62	+0·12	24·3‡	22‡
	Ochtertyre ⚓ S	66	41	60·1	43·7	51·4	+3·4	66	0	6	1·61	+1·07	*	*
	Leith ⚓	65	40	59·6	44·1	51·4	+1·8	66	0	7	0·98	+0·60	*	*
	Marchmont ⚓ S	62	40	57·4	41·7	49·1	+1·7	51	1	7	1·09	+0·58	35·0	31
2 ENGLAND, N.E.	Alnwick Castle ⚓	61	43	58·0	45·0	51·1	+2·6	64	0	5	1·22	+0·73	*	*
	Durham ⚓	67	42	59·0	44·0	51·1	+2·3	64	0	5	1·05	+0·57	37·5	34
	Shields ⚓	64	43	58·4	45·0	51·3	+2·4	65	0	4	0·78	+0·38	*	*
	Scarborough ⚓	62	42	57·8	45·3	51·2	+1·5	64	0	4	0·53	+0·11	31·5‡	29‡
	York ⚓	66	40	60·4	45·4	52·5	+1·4	74	0	5	0·87	+0·47	35·1	32
	Spurn Head ⚓	62	45	57·3	46·7	51·7	+1·8	68	0	3	0·12	?	*	*
3. ENGLAND, E.	Hillington ⚓	69	38	62·9	43·2	52·5	+2·0	74	0	2	0·16	—0·25	51·4	47
	Yarmouth ⚓	63	44	59·7	46·3	52·6	+0·9	74	0	2	0·08	—0·33	*	*
	Geldeston ⚓	67	40	62·9	44·5	53·2	+1·9	78	0	2	0·02	—0·37	49·7	46
	Cambridge ⚓	70	39	65·1	45·3	54·6	+2·2	88	0	2	0·27	—0·13	44·8	41
	Rothamsted ⚓	66	40	62·0	44·1	52·5	+1·1	74	0	4	0·25	—0·22	*	*
	Ingatestone ⚓	66	41	62·5	45·4	53·4	+0·5	80	0	3	0·20	—0·19	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ⚓	67	38	61·4	44·9	52·7	+1·6	75	0	5	1·42	+1·00	35·0‡	32‡
	Loughborough ⚓	70	42	63·6	46·3	54·4	+3·0	87	0	4	0·70	+0·26	46·9‡	43‡
	Cheadle ⚓	64	42	58·3	44·4	50·9	+0·3	62	0	3	0·66	+0·14	*	*
	Churchstoke ⚓	61	37	58·6	43·0	50·3	—0·3	58	0	6	0·59	+0·17	37·0	34
	Hereford ⚓	67	40	61·5	45·1	52·8	+0·9	76	0	5	0·55	+0·13	*	*
	Cirencester ⚓	65	38	60·4	42·6	51·0	—0·5	63	0	4	0·37	—0·09	45·5	42
	Oxford ⚓	68	43	62·3	46·7	54·0	+2·0	84	0	4	0·40	—0·02	50·8	47
5. ENGLAND, S.	London ⚓	68	43	64·3	47·0	55·1	+2·2	92	0	3	0·19	—0·20	51·3‡	48‡
	Strathfield Turgiss ⚓	69	41	64·8	45·8	54·7	+3·5	89	0	3	0·49	+0·14	*	*
	Dungeness ⚓	65	46	60·7	48·1	54·0	+1·3	84	0	2	0·07	—0·33	55·4‡	52‡
	Hastings (St. Leonards)	65	44	61·3	47·9	54·2	+1·8	85	0	4	0·35	—0·07	64·1	60
	Southampton ⚓	70	46	64·0	48·3	55·7	+3·4	96	0	4	0·43	—0·01	62·7	59
	Hurst Castle ⚓	64	? 50	60·3	? 50·0	? 54·8	? +2·1	? 90	0	2	0·58	+0·20	*	*
	Stowell ⚓	63	41	59·0	45·2	51·7	+0·3	68	0	3	0·32	?	42·8‡	40‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	64	41	60·0	44·8	51·9	+3·1	69	0	7	1·27†	+0·38	*	*
	Glasgow ⚓	61	42	56·8	45·5	50·8	+2·3	62	0	6	1·76	+1·24	35·4	32
	Ardrossan ⚓	57	45	54·4	46·9	50·4	+1·5	59	0	6	1·75	+1·25	*	*
	Glenlee ⚓ S	61	39	57·5	44·3	50·5	+2·2	60	0	7	1·89	+1·28	*	*
	Douglas (Isle of Man) ⚓	60	43	55·2	45·7	50·2	+1·3	57	0	7	1·81	+1·39	42·5	39
7. ENGLAND, N.W.	Newton Reigny ⚓	64	39	56·7	43·4	49·7	+1·0	54	0	5	1·28	+0·88	40·1	36
	Stonyhurst ⚓	62	42	57·2	44·4	50·4	—0·2	59	0	6	1·39	+0·81	34·2	31
	Blackpool ⚓	61	42	56·6	46·4	51·2	—0·5	64	0	6	0·87	+0·45	34·2	31
	Manchester ⚓	65	43	57·9	45·4	51·3	—0·1	65	0	6	1·23	+0·72	*	*
	Liverpool Obsy. (Bidston) ⚓	63	44	58·7	47·1	52·6	+0·9	74	0	6	0·40	+0·01	*	*
	Llandudno ⚓	60	44	56·9	45·8	51·0	—1·0	63	0	4	0·59	+0·19	27·5	25
	Holyhead ⚓	61	44	56·1	46·7	51·1	—0·6	64	0	6	1·76	+1·35	*	*
8. ENGLAND, S.W.	Llandovery ⚓	68	36	60·9	43·1	51·5	—0·4	67	0	5	0·77	+0·16	*	*
	Pembroke ⚓	56	45	53·1	47·0	49·6	—1·9	53	0	5	1·43	+0·99	48·9	45
	Arlington (N. Devon) ⚓	60	42	57·7	44·6	50·8	—0·4	62	0	6	0·70	+0·03	*	*
	Cullompton ⚓	66	44	60·8	45·7	52·8	+0·4	76	0	4	0·33	—0·15	45·3	42
	Falmouth ⚓	61	45	56·9	47·0	51·7	—0·2	68	0	5	0·89	+0·27	49·0	46
	Plymouth ⚓	66	46	62·5	48·4	55·0	+1·8	91	0	4	0·05	—0·43	54·7	52
	Prawle Point ⚓	58	44	55·4	46·9	50·9	—0·7	62	0	2	0·06	?	*	*
9. IRELAND, N.	Malin Head ⚓	56	43	54·1	45·4	49·5	+0·2	53	0	5	0·34	?	*	*
	Londonderry ⚓	65	41	58·8	44·3	51·1	+1·0	64	0	6	0·40	—0·13	*	*
	Mullaghmore ⚓	58	42	54·7	4 ·7	49·4	—2·1	52	0	5	0·17	—0·40	*	*
	Belmullet ⚓	57	42	53·1	45·3	49·0	—1·7	49	0	6	0·58	?	*	*
	Markree Castle ⚓	61	34	56·0	41·5	48·3	—2·7	46	1	6	0·42	—0·06	40·9	37
	Brookeborough ⚓	62	35	55·8	41·5	48·2	—2·7	46	1	7	1·02	?	*	*
	Armagh ⚓	61	39	56·8	43·4	49·7	—0·9	54	0	6	0·49	+0·05	39·3	36
	Donaghadee ⚓	61	46	57·7	47·3	52·4	+2·2	73	0	6	1·13	+0·64	*	*
	Edgeworthstown ⚓	61	35	56·9	41·6	48·9	—2·3	50	1	7	0·57	+0·05	*	*
10. IRELAND, S.	Dublin ⚓	61	41	58·4	45·5	51·6	+0·3	67	0	6	0·86	+0·44	43·7	40
	Parsonstown ⚓	58	36	56·1	42·7	49·0	—2·4	49	0	6	0·35	+0·15	31·3	29
	Kilkenny ⚓	60	36	56·9	41·6	48·8	—2·6	49	1	7	1·20	+0·78	*	*
	Waterford ⚓	59	39	57·1	42·9	49·6	—2·7	53	0	5	1·25	+0·73	*	*
	Roche's Point ⚓	56	42	55·0	45·7	50·1	—2·2	57	0	5	1·25	+0·55	*	*
	Valencia ⚓	55	42	54·4	44·4	49·1	—2·6	50	0	7	1·22	+0·57	33·9	31
	Killarney ⚓	56	36	55·4	42·6	48·6	—2·8	46	0	7	1·06	?	*	*
	Foynes ⚓	56	42	54·7	44·2	49·1	—2·1	50	0	6	0·73	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ⚓	60	48	57·3	49·7	53·3	+0·6	79	0	6	1·08	+0·70	*	*
	Jersey ⚓	66	44	60·3	47 9	53·7	+0·4	82	0	3	0·18	—0·21	70·6	67

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

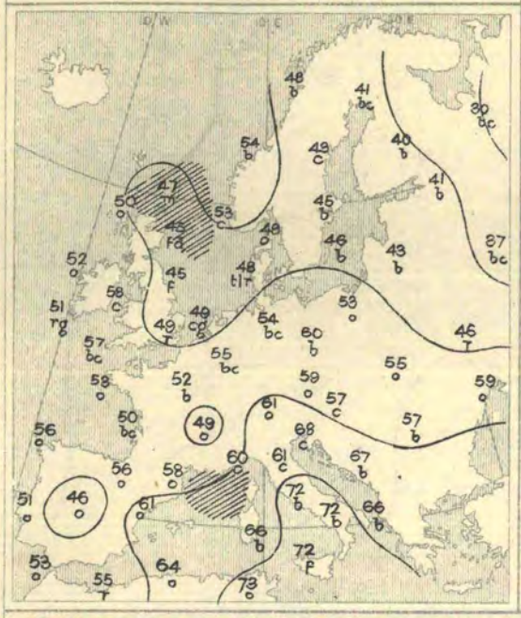
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 11th May.

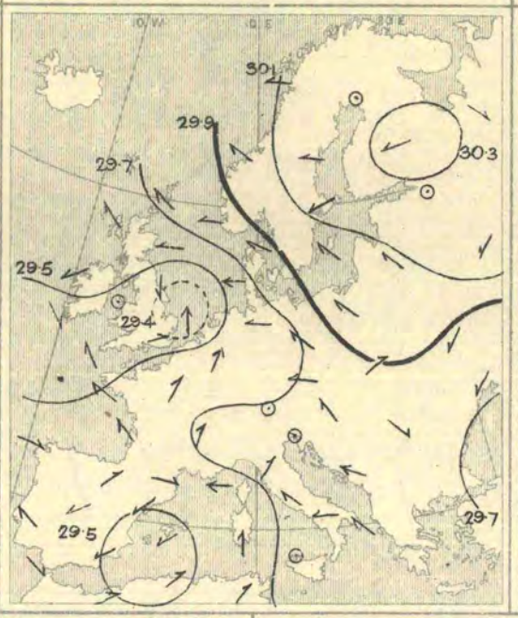
Temperature and Weather.

8 a.m.

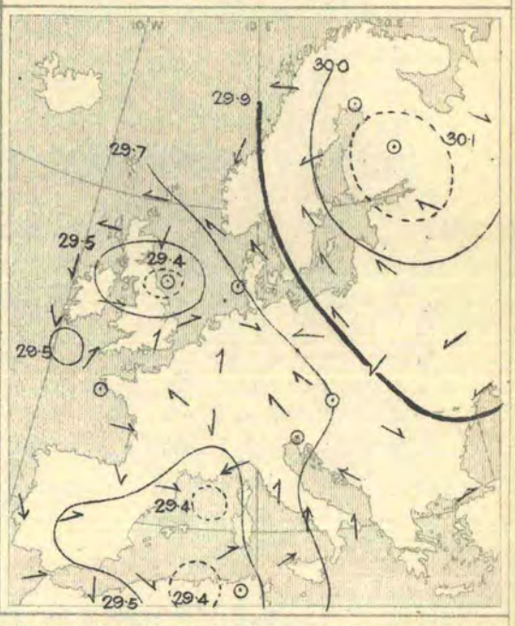


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning rainy over the eastern and central parts of England and at Valencia, foggy on the north-east coasts of Great Britain, and dull in most other parts of the United Kingdom, as well as in Denmark, Germany, France, Spain, and the south of Russia; thunderstorms at Fanö and Lorient. Fine over the English and Bristol Channels, over Scandinavia, the northern half of Russia, and greater part of Italy. Improvement over England later, but thunderstorms locally; heavy rain in Scotland and south of Norway later, and very large quantities on northern shores of Mediterranean.

Temperature highest, 60° to 70° or more, over Italy, Algeria, and the Mediterranean (La Calle 73°, Rome, Naples, and Palermo 72°, and Trieste and Aumale 68°). Lowest, 30° at Archangel, 37° at Moscow, 40° at Kuopio, 41° at Haparanda and St. Petersburg; Aberdeen and Shields only 45°, and Madrid only 46°. Highest daily maxima over our Islands, 68° at Cambridge and 63° at Oxford, but thermometer rising to 70° and more in south of France to 80° and more in Sicily and the south of Italy and some parts of Algeria.

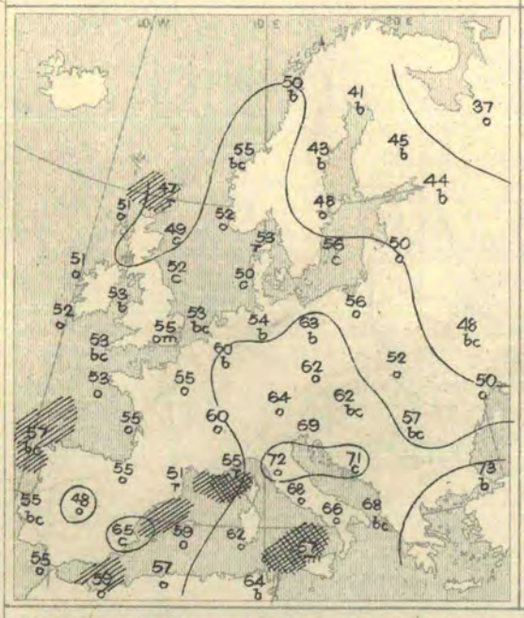
Wind South-Easterly and Easterly over the northern and western parts of our Islands, and the northern and eastern parts of Europe generally; light from the Southward over France and moderate from the South-Westward over the south-east of England; South-Easterly in Italy, Austria, and eastern Germany; Easterly (a gale) at Toulon, North-Easterly in Spain, Southerly or South-Westerly in Algeria. Subsequently shifting to the Westward in many parts of England and to the North-Westward at Biarritz and Lisbon.

Barometer highest, 29·9 ins. to 30·3 ins. and more, in an anti-cyclone lying over northern Europe, 29·6 ins. and more over western half of Spain. Lowest, 29·4 ins. and less, in a well-marked depression lying over the east of England, and in a smaller system lying between Algiers and Palma, 29·5 ins. and less in another disturbance situated to the south-west of our Islands. Depression over England subsequently moving northwards, but other shallow systems appearing over France, and a well-marked one near Toulon.

Monday, 12th May.

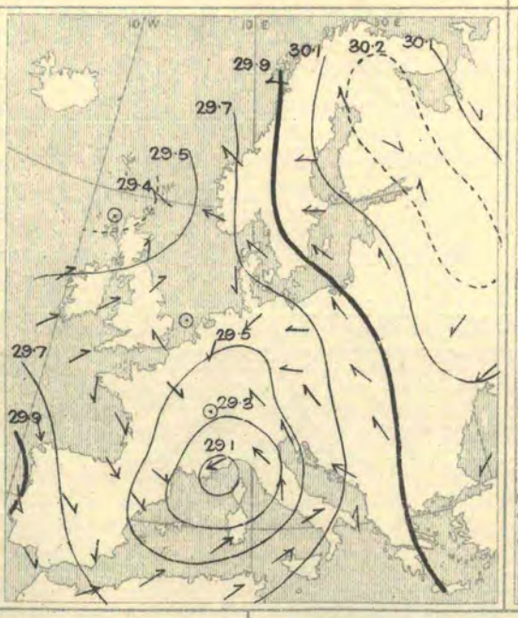
Temperature and Weather.

8 a.m.

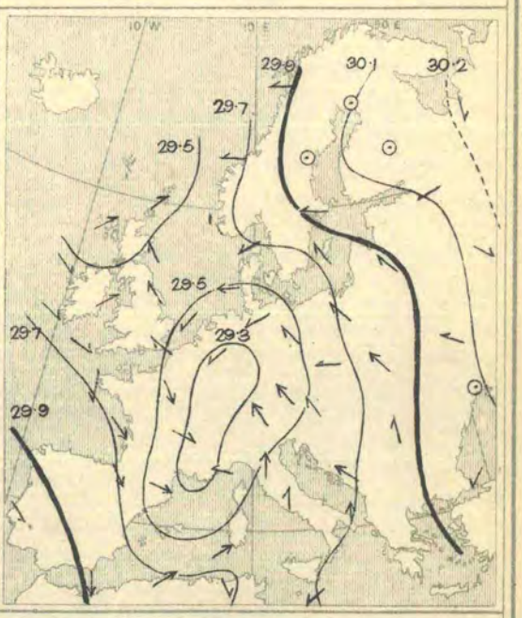


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over Scandinavia, Finland, and Russia, as well as over the western and central parts of England; cloudy and very changeable elsewhere, with rain over the Skager Rack and Shetland Islands, as well as over the southern Departments of France generally. Heavy rainfall over the last-named regions later, and smaller quantities in Ireland and Scotland; thunder and lightning in several places.

Temperature rising over England and the north of France, and also over Germany, Austria, and the north of Italy; changing irregularly elsewhere. Morning readings exceeding 70° at Leghorn, Florence, and Lesina, and exceeding 60° at most of the Mediterranean stations and over north Germany; lower elsewhere. Below 40° at Archangel, and as low as 41° at Haparanda, 44° at St. Petersburg and Kharkov, and 47° to 49° in the north-east of Scotland. Rising later to between 60° and 70° over England, to 70° and more over Algeria and Italy, and to 80° or more in western Germany.

Wind mainly South-Easterly over central, eastern, and northern Europe, Northerly and North-Westerly over the Bay of Biscay and Spain. Very light and variable over the United Kingdom, North-Easterly to Northerly in the north of France. Complete cyclonic circulation over Mediterranean, Italy, and south of France, strong in many places, and a gale at Toulon. Freshening from the Northward at most of the French stations later. No important change in our Islands.

Barometer highest, 29·8 ins. to 30·2 ins. and more, over Scandinavia, the Baltic, Russia, Poland, and south-eastern Europe, 29·7 ins. to 29·9 ins. over the western part of the Spanish Peninsula, and apparently still higher to the westward of the Portuguese coast. Lowest, 29·1 ins. and less, in a depression lying near Toulon, and 29·4 ins. and less in a shallower disturbance off the north of Scotland. Latter disturbance passing off subsequently, while that in the south moved northwards over the east of France.

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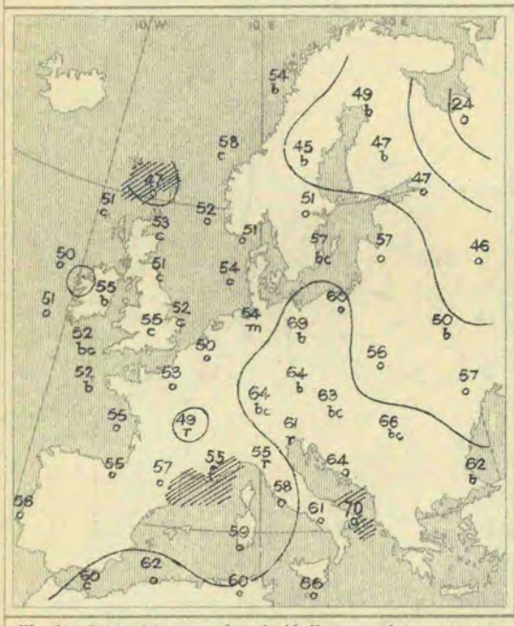
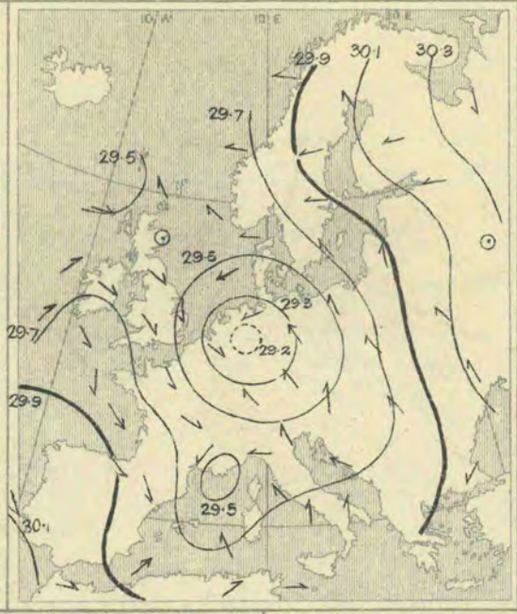
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 13th May.

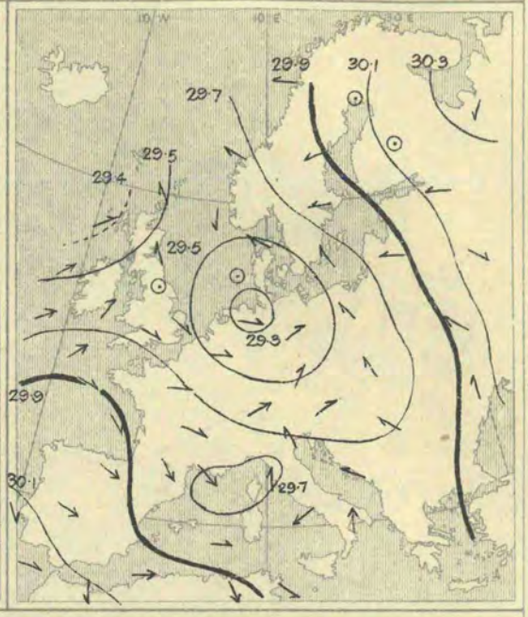
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather improving somewhat decidedly over the greater part of England and France, and continuing fine over south-eastern, eastern, and northern Europe, very changeable and unsettled elsewhere, with rain in the south of France and north of Italy, a thunderstorm at the Helder, and wet mist at the mouth of the Elbe. Heavy rains later over the south-eastern parts of France and south Germany, and showers in the west and north of the British Islands, hail at Valencia.

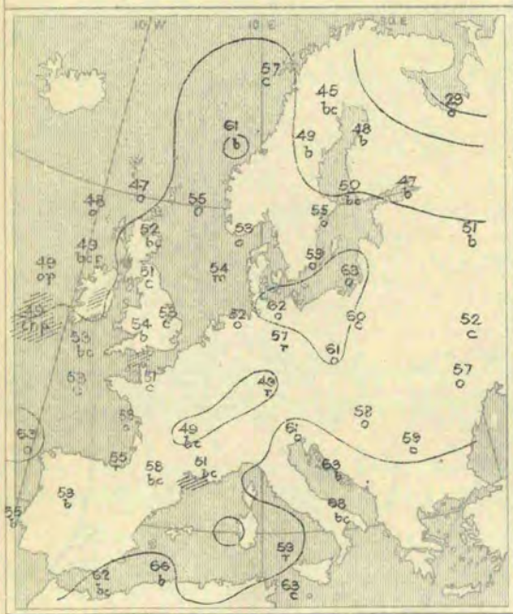
Temperature exceeding 60° over north and west Germany, Austria, the greater part of south-eastern Europe, and the southern shores of the Mediterranean; above 50° over western Europe generally, as well as in Norway, but below 50° over Finland and the greater part of Russia. Lowest of all, 24° at Archangel. Rising during the day to between 55° and 65° over the British Isles and France, to 70° or more at Fanö and over Germany, Austria, and Italy, and to 82° at Berlin.

Wind still South-Easterly over south-eastern and central Europe, and Easterly in the north; North-Westerly over Spain, France, and England, Westerly in the north of Scotland, and South-Westerly in Ireland. The South-Westerly current spreading to all our western and northern stations later, and a strong breeze from the same quarter setting in over south Germany. Wind shifting to the Westward over Holland and north Germany.

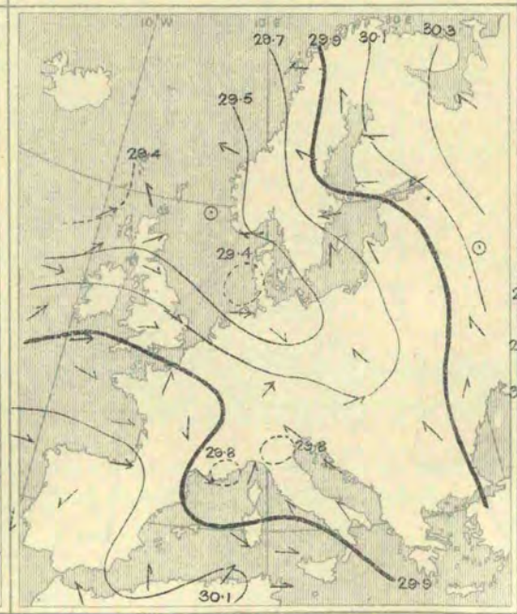
Barometer highest, 29·9 ins. to 30·2 ins. and more, over the Black Sea, Russia, and northern Europe, 29·8 ins. to 30·1 ins. over the Bay of Biscay, the Spanish Peninsula, Morocco, and Algeria. Lowest, 29·2 ins. and less, in a depression over the Netherlands, 29·5 ins. and less in another near Toulon, and below 29·6 ins. over the south-east and east of France, the whole of Germany, the North Sea, the east of England, and the whole of Scotland. The deeper depression moving to Holstein later, and a new one appearing off our north-west coasts.

Wednesday, 14th May.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine generally over Russia, the Baltic, northern Europe, and over the greater part of our Islands, as well as on the western and southern shores of the Mediterranean; dull or cloudy elsewhere, with rain and hail in the west of Ireland and at Berlin. Showers later at our western and northern stations, and rain over Scandinavia and central Europe—rather heavy at Skudesnaes; thunder and lightning reported in Caithness. Heavy rain falling also at Rome.

Temperature fallen decidedly over central Europe: morning readings varying greatly between 51° to 68° at the Mediterranean stations and over central Europe, and exceeding 50° in nearly all parts of Spain, France, Great Britain, and Norway; lower elsewhere. As low as 29° at Archangel, 47° at St. Petersburg and Sumburgh Head, and 49° at Kharkov. Rising later to between 60° and 72° at the Scandinavian stations, to between 55° and 65° over the British Islands and France, and to 68° at Lisbon, but falling again rather decidedly as night approached. Daily maxima exceeding 90° in some parts of Algeria and the south of Italy.

Wind continuing South-Easterly to Easterly over Russia, Poland, the Baltic, Sweden, and Norway, and blowing strongly at some of the coast stations; South-Westerly to Westerly, moderate to strong, over Ireland, England, France, and the Netherlands; variable elsewhere. An independent cyclonic circulation prevailing over the Mediterranean and Italy, strong North-Westerly winds at Toulon and Cagliari. Backing over the western parts of the British Islands later, and increasing to a strong breeze in those regions generally.

Barometer highest, 29·8 ins. to 30·4 ins. over Sweden, Finland, and Russia, and 29·8 ins. to 30·2 ins. over France, Spain, and the southern parts of our Islands. Lowest, about 29·4 ins. off the north-west of Scotland, and also in a depression over Holstein, 29·8 ins. and less in two shallow depressions over the Gulf of Genoa and Gulf of Venice. Gradients moderate. Disturbance over Holstein moving north-east and filling up later, but new one approaching our own north-western coasts.

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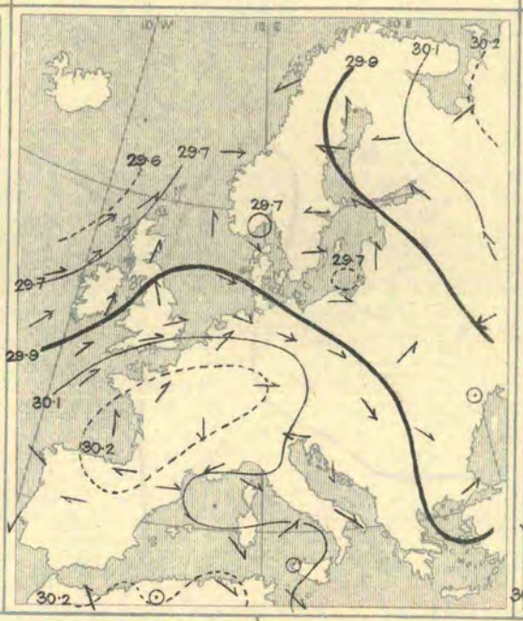
Thursday, 15th May.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine, but not settled, over the greater part of western and southern Europe, solar halos reported in the south of England, passing showers at some of our western stations. Dull over Russia, Germany, and Austria, with rain at Munich and Nicolaieff. Showers falling later in the west and north of our Islands and at Christiansund; thunder occurring at Wick. Solar halos and mock suns reported over the south of England in evening.

Temperature highest, 60° and upwards, over the Mediterranean and Adriatic, as well as at some Baltic stations; highest readings of all, 74° at Constantinople, 70° at Brindisi, 66° at Algiers, and 64° at Barcelona. Lowest, 43° at Archangel, 46° at Haparanda and Kuopio, 48° at Skudesnaes, Sumburgh Head, Stornoway, Malin Head, Mullaghmore, and Parsonstown, and 49° at Hernösand, Ardrossan, and Holyhead. Daily maxima little above 60° in our Islands, but thermometer rising above 65° in the south of Sweden, above 70° in many parts of France and Italy, and above 80° in Algeria.

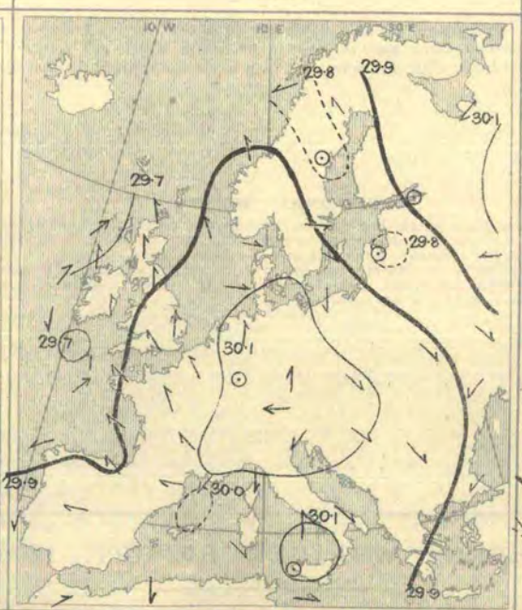
Wind South-Westerly over our Islands and north of France, fresh or strong in force at several of the western stations; moderate from the Westward over Denmark, the Netherlands, and the greater part of Germany, but North-Westerly over eastern Germany and Austria. Light from the South-Eastward over Russia and Scandinavia, variable over southern Europe, Algeria, and the Mediterranean. Subsequently backing to the Southward on the west coasts of our Islands, but no important change occurring elsewhere.

Barometer highest, 30·1 ins. to 30·2 ins. and upwards, in a large anti-cyclone lying over France, Spain, western and southern Germany, as well as in smaller systems lying over Algeria; high, 30·1 ins. and upwards, over Russia. Lowest, 29·6 ins. and less, in a depression lying to the north-westward of Scotland; trough of low readings (29·8 ins. and less) extending south-eastwards from the Norwegian coasts to Poland. "V"-shaped depression showing itself later over the north of Spain, and barometer falling decidedly in the south-west of France.

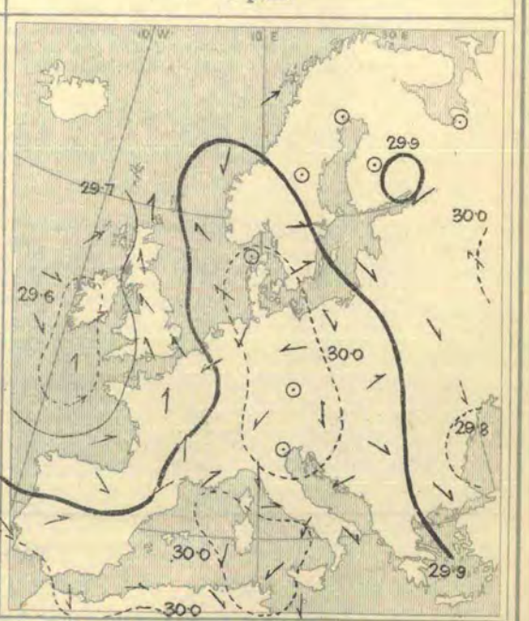
Friday, 16th May.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over central Europe, France, and at most of the Mediterranean stations, as well as in the north of Russia; changeable and unsettled elsewhere, with rain in several parts of the British Isles, western Russia, and Baltic Provinces. Rain during the day throughout United Kingdom—heavy in the west and north-west, and smaller quantities at some of the French stations. Weather remaining fine in most parts of central and southern Europe.

Temperature very irregularly distributed: exceeding 60° on the western, southern, and eastern shores of the Mediterranean, and as high as 60° at Bodö, 59° at St. Petersburg, and 58° at Riga. Below 50° at several stations in the British Islands; lowest of all, 47° at Malin Head and Donaghadee, 48° at Valencia and Pembroke, and 49° at Wick and Liverpool. Rising to between 60° and 70° over Sweden, Germany, and England later, and to between 70° and 80° in many parts of France, Algeria, and southern Europe. Highest maxima of all, 88° at Laghouat and 82° at Nancy.

Wind chiefly Southerly to South-Easterly over western Europe and the British Isles, North-Westerly over Germany and Austria, very variable elsewhere. Force light to moderate in our Islands, light in most other places. Freshening from the Southward over England later, but becoming Northerly in Ireland; veering to the South-Westward or Westward in the west of France.

Barometer highest, 30·0 ins. to 30·2 ins. and more, over the whole of central Europe and the greater part of the Mediterranean, 30·0 ins. to 30·1 ins. over northern and eastern Russia. Lowest, 29·7 ins. to 29·8 ins. over the western parts of the British Isles, and about the same value in a band stretching from the north of Scandinavia across the Baltic Provinces to western and southern Russia. Shallow depression off the south of Ireland developing into a complex disturbance later, and barometer falling over western Europe generally.

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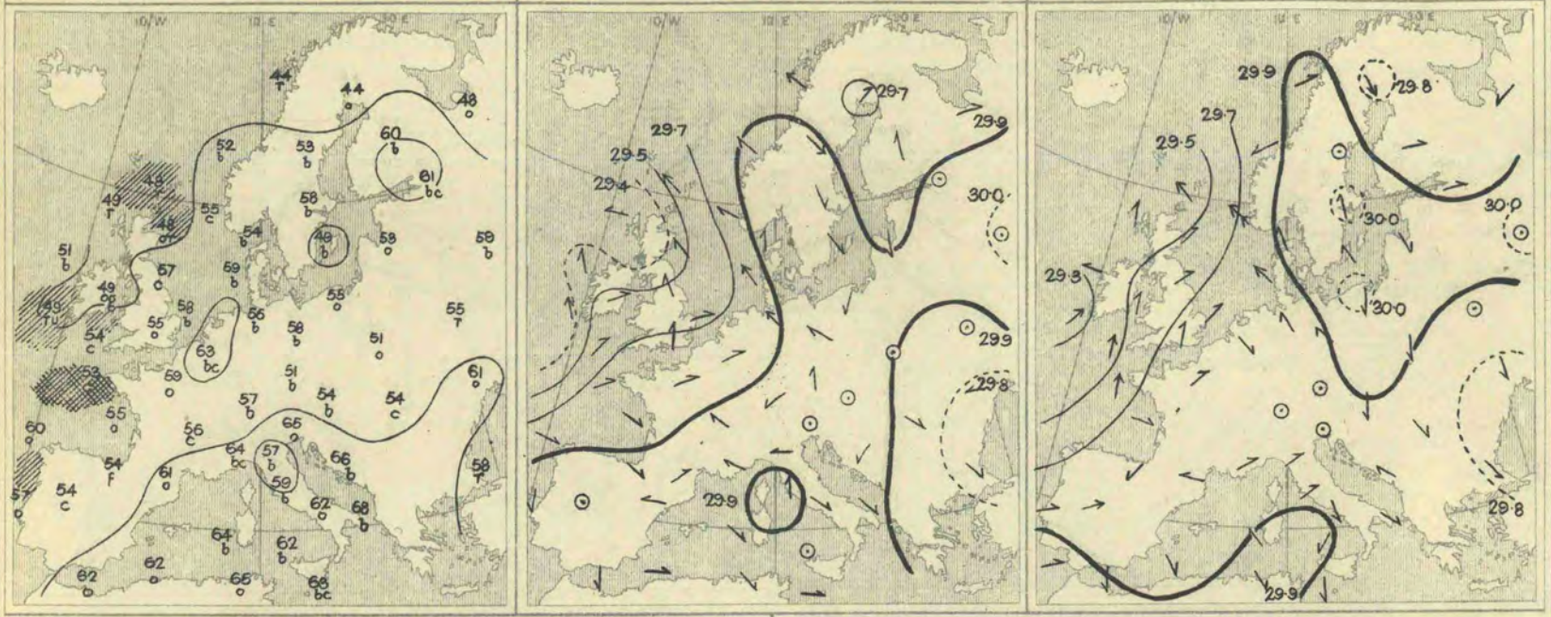
Saturday, 17th May.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.



Weather fair at most of the English stations, and also over the greater part of the Continent, but rainy in many parts of Ireland and Scotland. Rain reported at Bodö and Kiev also, and dull weather in Portugal and Algeria. Thunder and lightning occurring later at some of the French and Danish stations; slight rain falling in nearly all parts of western Europe.

Temperature highest, 60° and upwards, over the Netherlands and southern and eastern Europe generally (Brindisi 68°, Barcelona 67°, Lesina 66°, and Trieste, Leghorn, and La Calle 65°). Lowest, 44° at Bodö and Haparanda, 47° at Malin Head, and 48° at Archangel, Sumburgh Head, Wick, and Aberdeen. Daily maxima over our Islands below 60° in the western and below 65° in the more eastern and central districts. Thermometer exceeding 70° in most parts of southern Europe and also in Algeria, the highest reading of all being 86° at Biskra.

Wind moderate to strong from the South-Westward over England, the Channel, and the north of France, and from the South-Eastward in the west of Ireland, as well as over the North Sea, Norway, and the north and east of Scotland. Light from the Northward over the Baltic and eastern Germany, and from the North-Westward in the south of Italy, but variable or Easterly in Spain, the south of France, and western Germany. Subsequently increasing to a moderate gale from the Southward at the mouth of the Channel.

Barometer highest, 30·0 ins. and upwards, in an elongated anti-cyclone extending from Austria to the central parts of Scandinavia, and also in another area lying over central Russia. Lowest, 29·4 ins. and less, in a depression lying over Scotland, as well as in another system lying to the south-westward of Ireland. Both disturbances subsequently moving away in a north-westerly direction over the Atlantic, but shallow system beginning to appear in the neighbourhood of the Pyrenees.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout the earlier part of this week pressure was high over northern Europe and Russia on the one hand, and over the Spanish Peninsula on the other, while over the British Islands, central and southern Europe it was low and several depressions appeared. The south-western high-pressure area then increased in intensity, and after Wednesday moved north-eastwards to France, Germany, and Denmark, while that over northern Europe gave way. Towards the close of the week, however, the former system had reached the Baltic and appeared to be spreading over the northern countries, thus taking the place of the system which had previously reigned in those regions, while a new high-pressure area began to appear over Algeria and Spain. Depressions were being formed simultaneously over the British Islands and also over the Black Sea, so that the complex distribution of pressure, so very prevalent of late, was re-established.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March, *price* **4d.**
SUPPLEMENT.—Monthly Summary of Observations, January and February, *price* **6d.** *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 21.] *Third Series.* WEEK ENDING SATURDAY, 24TH MAY, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 122.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	77	37	62·2	46·5	53·9	6 above.	83	+42	0	− 7	472	+145	435	− 73
	1. SCOTLAND, EAST	73	37	61·5	46·3	53·5	5 above.	81	+24	0	− 5	534	+ 76	482	− 61
	2. ENGLAND, N.E.	75	43	61·9	47·4	54·2	3 above.	85	+27	0	− 4	518	+ 50	389	− 93
	3. ENGLAND, EAST	78	38	66·0	45·8	55·3	3 above.	93	+21	0	− 3	634	+ 26	468	− 39
	4. MIDLAND COUNTIES	78	40	65·9	45·8	55·3	3 above.	93	+19	0	− 4	666	+ 25	476	− 28
	5. ENGLAND, SOUTH	80	39	65·4	48·6	56·6	3 above.	102	+24	0	− 1	721	+ 37	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	74	39	63·1	48·7	55·5	6 above.	95	+35	0	− 3	604	+ 97	324	− 74
	7. ENGLAND, N.W.	74	43	65·2	49·1	56·7	4 above.	103	+38	0	− 2	607	+ 78	302	− 81
	8. ENGLAND, S.W.	78	42	63·1	48·8	55·5	3 above.	95	+23	0	− 1	721	+ 30	245	+ 12
	9. IRELAND, NORTH	78	40	63·5	47·2	55·5	4 above.	95	+33	0	− 2	626	+ 43	295	− 55
	10. IRELAND, SOUTH	74	38	61·6	49·0	54·9	2 above.	90	+20	0	− 1	751	+ 21	225	− 14
	— CHANNEL ISLANDS	75	45	60·6	49·9	55·0	1 above.	91	+15	0	0	881	+111	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 122.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	1	2	4 less.	97	+ 4	19·1	− 1·1	41	35	463	−40	28	− 1
	1. SCOTLAND, EAST	2	2	2 less.	83	+ 9	11·2	− 0·4	44	39	490	−71	29	− 4
	2. ENGLAND, N.E.	2	1	3 less.	72	− 1	7·8	− 1·8	50	44	470	−43	28	− 1
	3. ENGLAND, EAST	1	1	3 less.	76	+ 1	8·3	− 0·5	73	66	603	− 4	36	0
	4. MIDLAND COUNTIES	1	4	0 (average.)	71	− 1	8·4	− 2·0	57	51	512	−25	30	− 1
	5. ENGLAND, SOUTH	2	3	1 less.	73	+ 2	9·9	− 0·6	62	57	562	− 1	33	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	3	4	1 less.	88	+ 5	18·5	− 2·1	42	37	507	−13	30	0
	7. ENGLAND, N.W.	3	3	2 less.	83	+ 8	11·7	− 0·3	45	40	478	−45	28	− 2
	8. ENGLAND, S.W.	3	6	0 (average.)	84	+ 5	14·3	− 2·3	52	47	597	−15	35	− 1
	9. IRELAND, NORTH	3	2	3 less.	93	+ 2	11·6	− 1·7	55	49	527	−10	31	0
	10. IRELAND, SOUTH	4	8	2 more.	95	+ 9	17·8	+ 1·9	52	47	577	−26	34	− 1
	— CHANNEL ISLANDS	5	10	6 more.	90	+ 4	12·9	0·0	63	59	716	−18	42	− 1

General Remarks.

Weather during this period has been fine and bright generally over all the more eastern and south-eastern parts of the Kingdom. In the western districts it was unsettled and rainy during the earlier days, but subsequently became very fine and summer-like there also. Thunder and lightning were experienced at many stations during the early part of the time and again over our south-western districts at its close.

Temperature has been above the mean in all districts, the excess having ranged from 1° in the "Channel Islands," 2° in "Ireland S.," and 3° over the greater part of England, to 4° in "England N.W." and to 5° or 6° over Scotland. The highest of the maxima, which were recorded on the 24th, ranged from 73° in "Scotland E." to 78° in many parts of England and in "Ireland N.," and to 80° in "England S." The lowest of the minima, which were registered on rather irregular dates, varied from 37° in the north and east of Scotland to 43° in "England N.E." and "England N.W." and to 45° in the "Channel Islands."

Rainfall has exceeded the mean in "Ireland S." and the "Channel Islands," and just equalled it in "England S.W." and the "Midland Counties," but in all other districts it has been less than the normal amount.

Bright Sunshine shows a general increase in duration, the percentage of the possible amount having ranged from 35 to 39 in Scotland, from 47 to 49 in Ireland, and from 40 to 66 over England.

Barometer and Wind.—The only depression which appeared immediately over the Kingdom was one which moved west-north-westwards over the south-western counties of England and Ireland to the Atlantic on the 20th. The distribution of pressure subsequently became anti-cyclonic, but at the end of the period the barometer on our southern and south-western coasts was falling decidedly. Southerly to South-Easterly winds of moderate strength were generally experienced on most days, but during the 23rd and 24th fresh or strong breezes from the Eastward and North-Eastward prevailed.

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III.—DATA from which the SUMMARY on page 121 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0 SCOTLAND, N.	Sumburgh Head	61	43	55·0	44·7	49·5	+2·4	53	0	1	0·01	—0·38	*	*
	Stornoway	70	44	62·6	47·7	54·7	+6·8	89	0	1	0·03	—0·57	53·3	46
	Wick	68	43	60·4	46·3	52·9	+5·2	76	0	3	0·46	+0·08	*	*
	Lairg Ş	76	38	66·7	45·7	55·6	+8·6	95	0	0	—	—0·52	*	*
	Glencarron Ş	77	37	67·1	47·5	56·7	+9·2	103	0	2	0·33†	—0·79	?	?
	Fort Augustus Ş	67	41	61·4	46·8	53·7	+4·0	82	0	1	0·26†	?	28·1	24
1. SCOTLAND, E.	Nairn	71	42	64·7	46·7	55·2	+5·7	92	0	2	0·02	—0·37	*	*
	Aberdeen	72	44	59·7	47·1	53·0	+4·3	77	0	2	0·76	+0·34	50·5	44
	Braemar Ş	72	37	59·4	43·8	51·1	+4·5	64	0	3	0·27	—0·21	36·8‡	32‡
	Ochtertyre Ş	73	40	63·0	46·0	54·0	+4·5	84	0	2	0·14	—0·42	*	*
	Leith	64	46	60·1	48·1	53·7	+2·9	82	0	3	0·04	—0·34	*	*
	Marchmont Ş	69	42	62·0	46·3	53·7	+5·1	82	0	2	0·08	—0·45	45·5	40
2 ENGLAND, N.E.	Alnwick Castle	64	43	58·7	46·3	52·1	+2·7	71	0	1	0·04	—0·44	*	*
	Durham	75	44	65·7	46·9	55·7	+5·1	96	0	2	0·11	—0·37	43·2	38
	Shields	64	46	58·3	47·6	52·6	+2·7	74	0	2	0·11	—0·29	*	*
	Scarborough Ą	71	44	61·6	47·3	54·0	+3·3	84	0	2	0·24	—0·18	51·0‡	45‡
	York	74	44	67·6	47·3	56·8	+4·4	104	0	2	0·15	—0·24	54·3	48
	Spurn Head	63	47	59·3	48·9	53·8	+2·3	83	0	2	0·13	?	*	*
3. ENGLAND, E.	Hillington Ą	74	40	68·1	45·9	56·3	+4·9	100	0	2	0·05	—0·37	71·7	64
	Yarmouth	61	49	59·4	50·1	54·5	+2·6	88	0	0	—	—0·42	*	*
	Geldeston	69	39	65·6	45·9	55·2	+2·5	92	0	1	0·04	—0·35	79·1	72
	Cambridge	78	41	70·3	44·3	56·5	+2·7	102	0	1	0·09	—0·31	69·1	63
	Rothamsted	75	38	66·9	43·5	54·6	+1·7	88	0	3	0·14	—0·34	*	*
	Ingatestone	72	42	65·7	45·3	54·9	+1·5	90	0	1	0·44	+0·05	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	75	?40	67·6	?46·0	?56·2	?+3·8	?99	0	1	0·21	—0·22	57·0‡	51‡
	Loughborough	78	41	70·0	45·9	57·2	+4·3	106	0	1	0·15	—0·30	67·7‡	60‡
	Cheadle Ą	73	42	64·9	46·4	55·1	+3·4	92	0	1	0·58	+0·06	*	*
	Churchstoke Ą	72	41	63·3	45·2	53·7	+2·1	82	0	2	0·68	+0·26	44·6	40
	Hereford Ą	75	45	65·7	47·2	55·9	+2·8	97	0	2	0·67	+0·24	*	*
	Cirencester	74	40	63·9	44·1	53·4	+0·6	80	0	1	0·46	—0·01	51·6	47
	Oxford	76	43	66·1	45·7	55·3	+2·2	93	0	1	0·10	—0·32	62·1	56
5. ENGLAND, S.	London	77	43	69·0	48·0	57·9	+3·6	111	0	2	0·13	—0·27	61·6‡	57‡
	Strathfield Turgiss Ą	78	39	68·1	43·6	55·4	+3·0	94	0	2	0·27	—0·10	*	*
	Dungeness	63	48	60·7	51·0	55·6	+2·1	95	0	2	0·21	—0·19	68·8‡	63‡
	Hastings (St. Leonards)	73	48	65·9	50·0	57·5	+3·9	109	0	1	0·10	—0·30	80·6	74
	Southampton	80	47	66·1	49·0	57·0	+3·4	105	0	1	0·41	—0·04	57·9	53
	Hurst Castle	73	49	64·0	51·4	57·3	+3·9	107	0	1	0·73	+0·35	*	*
	Stowell Ą	76	44	64·1	47·3	55·2	+3·2	92	0	3	0·45	?	40·5‡	37‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	74	47	65·2	50·4	57·4	+7·8	108	0	1	0·11†	—0·79	*	*
	Glasgow	71	47	62·4	48·9	55·3	+5·8	93	0	4	0·34	—0·19	32·6	28
	Ardrossan	71	48	62·7	49·6	55·8	+5·8	97	0	3	0·30	—0·20	*	*
	Glenlee Ş	72	42	64·2	46·8	55·0	+5·5	91	0	4	0·73	+0·12	*	*
	Douglas (Isle of Man)	69	39	60·8	48·0	54·0	+4·0	84	0	3	0·59	+0·17	50·4	45
7. ENGLAND, N.W.	Newton Reigny	70	43	64·8	46·2	54·9	+5·3	90	0	2	0·16	—0·26	49·1	43
	Stonyhurst	71	47	65·2	49·4	56·8	+4·9	104	0	2	0·06	—0·54	52·3	46
	Blackpool Ą	74	43	66·0	49·2	56·9	+4·0	104	0	3	0·64	+0·22	37·2	33
	Manchester	72	47	66·0	49·1	57·0	+4·4	105	0	1	0·11	—0·41	*	*
	Liverpool Obsy. (Bidston)	74	48	65·4	50·3	57·4	+4·5	108	0	2	0·43	+0·03	*	*
	Llandudno Ą	74	45	64·9	49·8	56·9	+3·7	104	0	4	0·54	+0·15	41·8	37
	Holyhead	71	47	64·3	49·9	56·7	+4·1	103	0	4	0·17	—0·25	*	*
8. ENGLAND, S.W.	Llandovery	77	42	68·1	47·7	57·3	+4·8	107	0	4	0·54	—0·08	*	*
	Pembroke	72	47	60·1	49·7	54·6	+2·2	88	0	3	0·42	—0·03	52·7	48
	Arlington (N. Devon)	74	43	64·3	47·6	55·5	+3·1	95	0	2	0·64	—0·04	*	*
	Cullompton Ą	78	43	65·6	46·7	55·6	+2·1	95	0	2	0·26	—0·23	49·7	46
	Falmouth	62	46	58·3	49·6	53·7	+0·6	82	0	3	0·83	+0·21	51·1	47
	Plymouth	76	46	66·7	50·4	58·1	+3·9	113	0	2	0·54	+0·07	52·3	48
	Prawle Point	64	46	58·4	49·7	53·8	+1·5	83	0	2	0·61	?	*	*
9. IRELAND, N.	Malin Head	69	47	61·7	49·6	55·3	+5·4	93	0	2	0·07	?	*	*
	Londonderry	78	42	69·8	48·5	58·5	+7·2	116	0	3	0·21	—0·33	*	*
	Mullaghmore	69	47	62·9	49·4	55·8	+3·2	97	0	4	0·07	—0·53	*	*
	Belmullet	73	46	62·3	49·4	55·5	+4·0	95	0	5	0·60	?	*	*
	Markree Castle	70	43	63·9	45·6	54·2	+2·0	85	0	2	0·06	—0·42	50·4	45
	Brookeborough	72	41	64·8	47·2	55·5	+3·4	95	0	2	0·09	?	*	*
	Armagh	70	44	63·1	48·3	55·3	+3·7	93	0	2	0·20	—0·25	60·2	53
	Donaghadee	66	47	59·6	49·9	54·5	+3·5	88	0	4	0·28	—0·21	*	*
	Edgeworthstown	71	40	63·6	46·6	54·6	+3·2	88	0	4	0·38	—0·14	*	*
10. IRELAND, S.	Dublin	66	48	62·1	50·8	56·1	+3·6	99	0	2	0·28	—0·15	58·5	52
	Parsonstown	74	45	65·4	48·3	56·3	+3·9	100	0	4	0·27	—0·23	49·0	44
	Kilkenny	71	44	62·0	49·1	55·2	+2·9	92	0	5	0·36	—0·06	*	*
	Waterford	72	46	61·1	49·7	55·1	+1·6	92	0	3	0·84	+0·33	*	*
	Roche's Point	67	45	58·1	49·0	53·3	—0·4	79	0	5	1·25	+0·55	*	*
	Valencia	71	42	60·1	49·0	54·2	+1·5	85	0	4	1·44	+0·78	47·9	44
	Killarney	72	38	60·9	47·6	53·9	+1·6	83	0	6	0·47	?	*	*
	Foynes	74	42	62·8	48·6	55·3	+3·1	93	0	4	0·33	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	58	47	56·1	49·7	52·7	—1·0	75	0	5	1·12	+0·74	*	*
	Jersey	75	45	65·1	50·1	57·2	+2·6	106	0	4	0·89	+0·49	63·1	59

Stations marked Ą are in connection with the Royal Meteorological Society, and those marked Ş with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

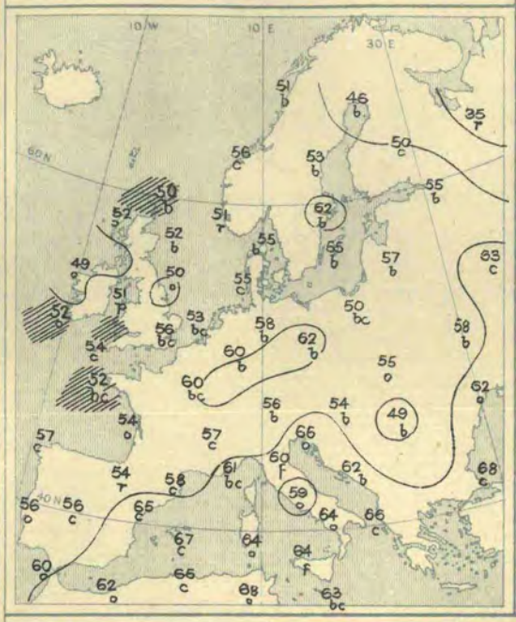
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 18th May.

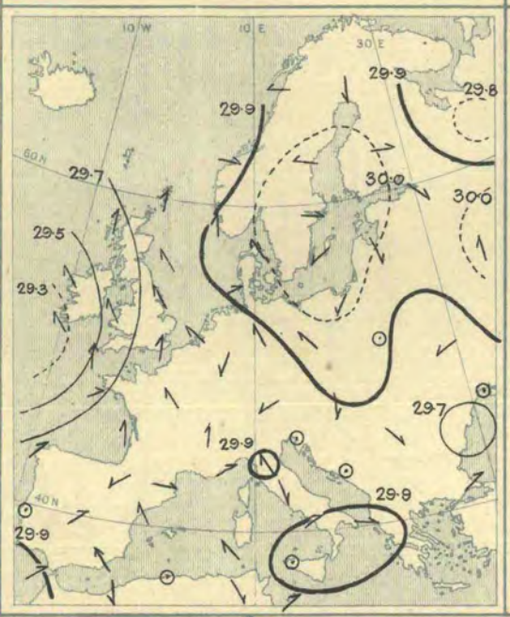
Temperature and Weather.

8 a.m.

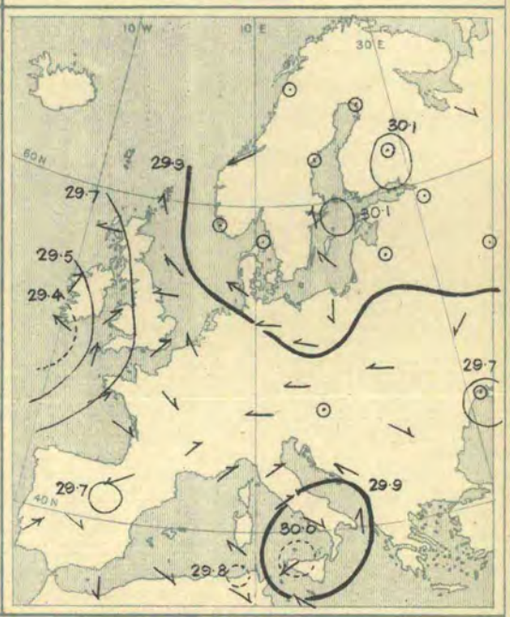


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of our Islands and the Continent, but dull on our extreme north-west coasts and in the west of France, foggy at some of the Italian stations, and rainy in the north-east of England. Rain falling during day in many parts of western Europe, the largest amounts being 1·3 ins. at Biarritz, 1·1 ins. at Flushing, 0·8 in. at Bordeaux and Valencia, and 0·7 in. at Aberdeen and Brussels. Thunder occurring in the Netherlands and north-east of France in the evening.

Temperature highest, 60° and upwards, over the Mediterranean and Adriatic, as well as at several of the German and Russian stations (71° at Sfax, 68° at La Calle and Constantinople, 67° at Palma, and 66° at Trieste and Brindisi). Lowest, 35° at Archangel, 44° at Uleaborg, 46° at Haparanda, and 49° at York, Malin Head, Belmullet, Donaghadee, and Hermanstadt. Highest daily maxima over our Islands, 69° at Cambridge, 67° at Loughborough, and 66° in London, the thermometer exceeding 70° in many parts of western and southern Europe and exceeding 80° at several Algerian stations.

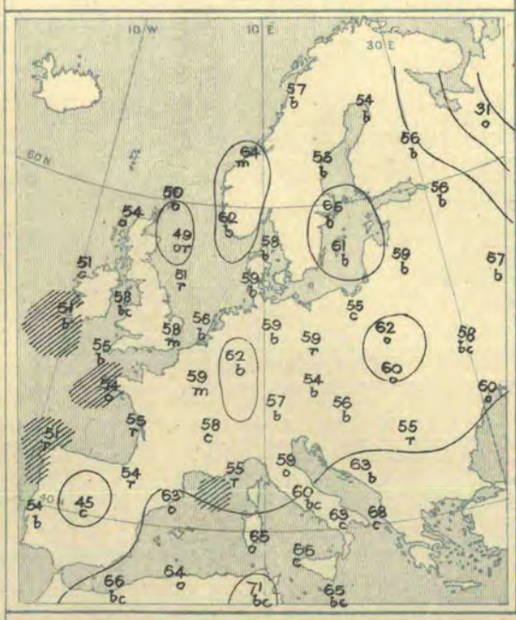
Wind South-Easterly or Southerly over our Islands, the North Sea, Denmark, the Netherlands, and north Germany, fresh or strong in force at several of our western stations; light from the Northward over Finland and the Baltic, and from the North-Eastward or Eastward in many parts of central and eastern Europe, Southerly or South-Westerly over Spain and the Bay of Biscay, variable in Italy and Algeria. No important change in our Islands later, but wind freshening over the Mediterranean.

Barometer highest, 30·0 ins. and upwards, over Finland, Sweden, and the Baltic, and also over central Russia, 29·9 ins. and upwards over the south of Italy, and also over Morocco. Lowest, 29·3 ins. and less, in a depression lying to the south-west of Ireland, 29·7 ins. and less in another disturbance lying over the Black Sea, 29·8 ins. and less in a third system lying over Archangel. High-pressure system over Scandinavia subsequently spreading eastwards towards our north coasts, but small shallow depressions appearing over France.

Monday, 19th May.

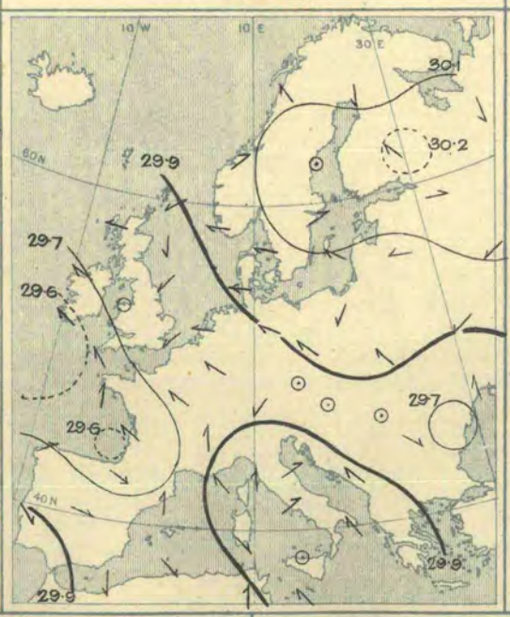
Temperature and Weather.

8 a.m.

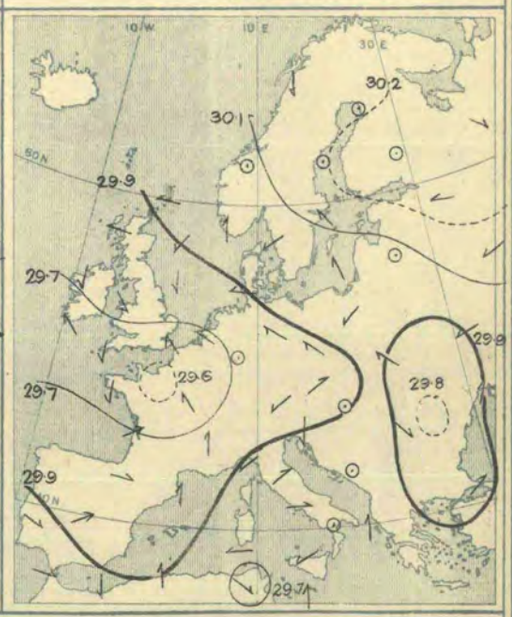


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the western parts of the United Kingdom, as well as over Scandinavia, Denmark, northern and central Russia, and many parts of central and southern Europe. Rainy over the north-east of Great Britain and at some of the Channel stations, as well as in eastern Germany, the south and south-west of France, and the north of Spain. Thunderstorms and heavy rain occurring later in many parts of France, Belgium, and England, and smaller quantities of rain in Denmark.

Temperature in morning 65° and upwards over the central parts of the Mediterranean, and also at some of the Baltic stations (La Calle 71°, Memel and Brindisi 68°, Sfax 67°, and Stockholm and Pesaro 66°); above 60° on the west coast of Norway. Lowest, 31° at Archangel, 45° at Madrid, 49° at Wick and Aberdeen, 50° at Kuopio, Sumburgh Head, and Leith, and 51° at Shields and Corunna. Subsequently rising to between 65° and 70° over the inland parts of England, to 75° or more at Brussels and over some parts of central France, to 86° at some Italian and Algerian stations, and to nearly 90° at Biskra.

Wind moderate or fresh from the Eastward or South-Eastward in the west of our Islands, and also on the eastern shores of the North Sea; light from the North-Eastward at most of our eastern stations, as well as over the Baltic; light from south-east over the greater part of France, but moderate to strong from the Westward over Spain. Variable over Italy and south-eastern Europe. Well-marked cyclonic circulation appearing later over France.

Barometer highest, 30·1 ins. and upwards, over the greater part of Scandinavia and northern Russia, 29·9 ins. and upwards over Italy and the extreme south of Spain. Lowest, 29·6 ins. and less, in a depression lying to the south-westward of our Islands, and also in another shallow system lying near Bilbao, 29·7 ins. and less in a third disturbance lying over Scandinavia. Depression over north of Spain subsequently moving north-eastwards to the north of Russia and then north-westwards towards the western part of the Channel. Barometer rising steadily in the south of our Islands.

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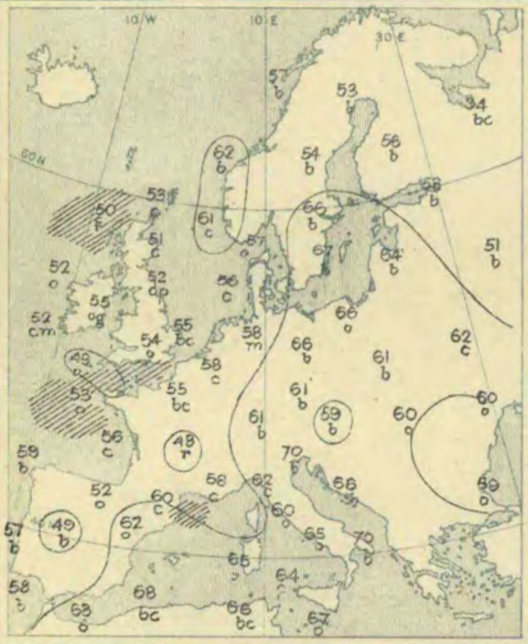
Tuesday, 20th May.

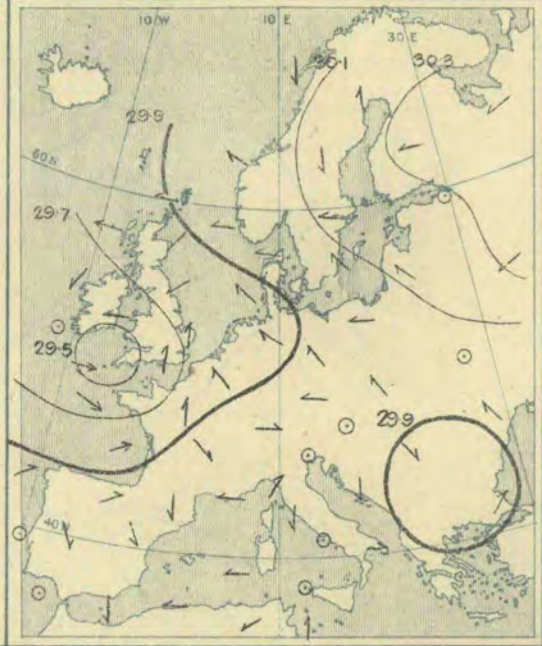
Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.



6 p.m.

Weather fine and bright over northern, eastern, and central Europe, as well as over the Iberian Peninsula; cloudy or overcast and unsettled elsewhere, but with some tendency to improve over England and to become less settled in Ireland. Rain during day over the western parts of our Islands (especially in south-east of Ireland), and also over the southern and eastern parts of France. Sky clearing over England.

Temperature fallen decidedly over western Europe. Morning readings exceeding 60° at most of the Mediterranean and Adriatic stations, as well as over central Europe and over the Baltic—as high as 70° at Riga and Brindisi. Below 60° over the British Isles and northern Europe, and as low as 34° at Archangel, 49° at Nairn and Leith, 50° at Stornoway, and 51° at Malin Head and Aberdeen. Rising to upwards of 60° in most parts of Great Britain later, to 70° or more in many parts of central and southern Europe, and to 80° or more at some of the German, Italian, and Algerian stations, the highest reading of all being 88° at Biskra.

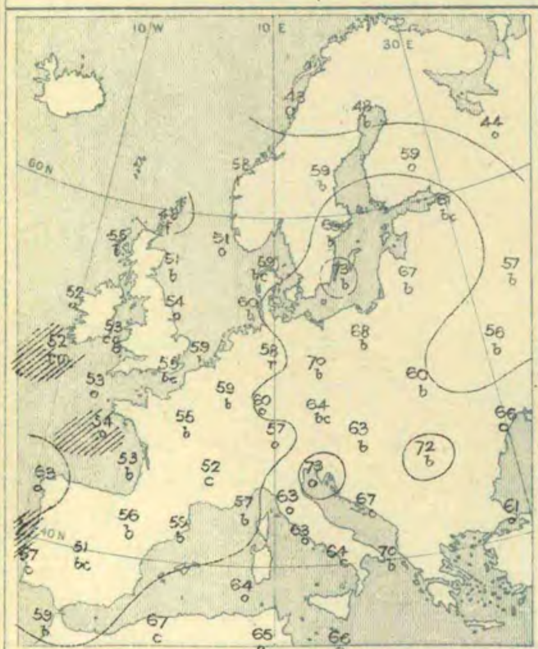
Wind light from the Eastward over the Baltic, Norway, Scotland, and the north of Ireland, moderate to strong from the Southward in the east and south of England (a gale at some Channel stations), and South-Westerly in the west and north of France. Very variable elsewhere and of little force. Southerly and South-Westerly wind becoming more general over England later and continuing to blow strongly for some hours. Wind veering to the South-Eastward in the north of Ireland and freshening.

Barometer highest, 30·0 ins. to 30·3 ins. and more, over northern Europe and Russia, 29·9 ins. to 30·1 ins. over Spain and the southern parts of France and Germany. Lowest, about 29·4 ins., in a depression lying over Devon and Cornwall, and rather below 29·9 ins. in another (shallow) disturbance over the Balkan Peninsula. English depression moving westwards later, and barometer rising on all our coasts—most in the south and east.

Wednesday, 21st May.

Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.

Weather fair over Great Britain and the greater part of the Continent, but dull in Ireland and the south-west of England, with rain at Valencia and Roche's Point. Rain also at Cuxhaven and Münster, and dull weather reported over the north of Italy and the western parts of the Iberian Peninsula. Unsettled rainy conditions extending later to most of our western stations, but weather remaining fine in the east of our Islands. Thunderstorm at Florence in evening and heavy rain falling over northern Italy generally.

Temperature highest, 65° and upwards, over the Baltic and many parts of central and southern Europe, the highest readings of all being 73° at Wisby and Trieste, 72° at Hermanstadt, 71° at Memel, and 70° at Berlin and Brindisi. Lowest, 44° at Archangel, 48° at Haparanda, Sumburgh Head, and Limoges, 50° at Mullaghmore, and 51° at Aberdeen, Donaghadee, Prawle Point, and Madrid. Daily maxima ranging between 65° and 70° over central England, but thermometer rising above 75° in many parts of central and southern Europe, and above 80° in some parts of Germany and Algeria.

Wind moderate to fresh from the Southward or South-Eastward over the greater part of our Islands, the Bay of Biscay, and the Spanish Peninsula, but South-Westerly in the east and south-east of England, as well as over Finland and the north of Scandinavia. Light or moderate from the Westward or North-Westward over western Germany and the east of France, light from the South-Eastward or Eastward over eastern Germany and Austria, variable in Italy and Algeria. The South-Easterly wind in Ireland subsequently veering to the Southward, but no important change occurring elsewhere.

Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over central Russia, 30·2 ins. and upwards over Tunis and central Algeria, and also over central France. Lowest, 29·7 ins. and less, in two depressions, lying respectively off the west of Scotland and the south-west of Ireland. Depressions subsequently moving northwards and barometer rising in all parts of western Europe.

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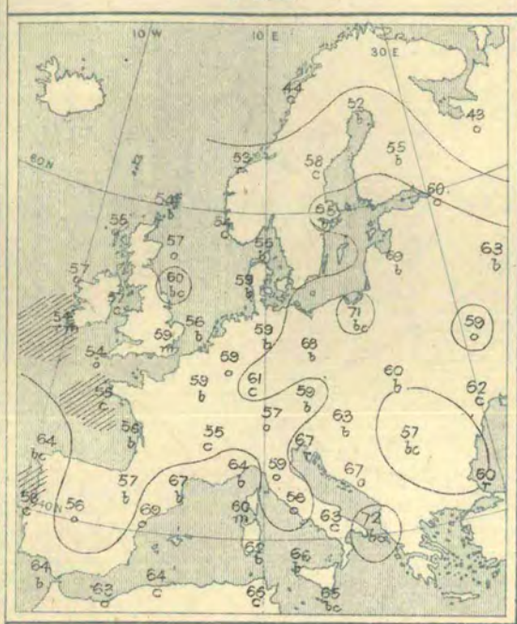
Thursday, 22nd May.

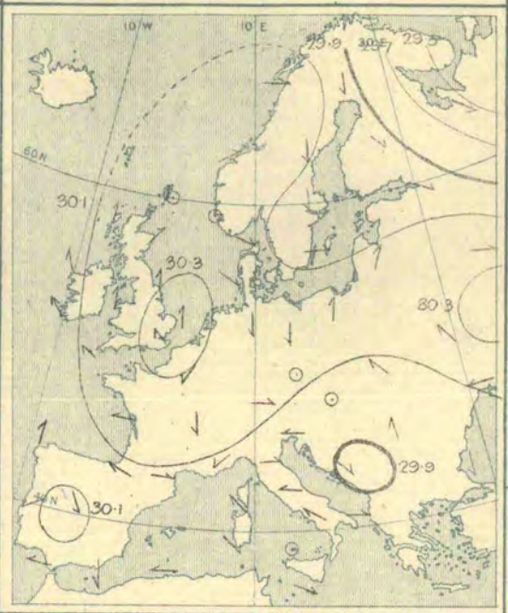
Temperature and Weather. 8 a.m.



Weather fine over the east and south of our Islands and the greater part of the Continent, dull at many of our western and northern stations, with steady rain in the south of Ireland and showers in several other localities. Dull also in the Netherlands, the Adriatic, and the north of Italy, with rain at Trieste. Decided improvement taking place later in the western and northern parts of the United Kingdom, but rain falling in the southern parts of Italy.

Temperature highest, 70° and upwards, over the south of Italy and the southern shores of the Baltic (Brindisi 72°, Neufahrwasser 71°, Memel 70°); 60° and upwards in many parts of central and southern Europe, and also at some of the English stations. Lowest, 43° at Archangel, 44° at Bodö, 49° at Le Mans, 52° at Haparanda and Donaghadee, and 53° at Christiansund, Roche's Point, and Pembroke. Subsequently rising to between 70° and 75° in many parts of Great Britain and to 80° or more at some of the French, German, Austrian, and Algerian stations.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind light from the Eastward over the Channel and Bay of Biscay, moderate or fresh from the South-Eastward on the west coasts of our Islands, light from the Southward in the eastern parts of Great Britain. Moderate from the Westward in the west of Norway, Northerly or North-Westerly over Sweden, Denmark, and the north of Russia, South-Westerly on the southern shores of the Baltic. Light and variable over the greater part of southern and eastern Europe. No important change occurring later.

Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over central Russia, and also in another lying over Holland and the east and south-east of England, the two systems being united by a broad "col" stretching across Germany. Lowest, 29·6 ins. and less, in a depression lying in the neighbourhood of the White Sea, 29·9 ins. and less in a shallow disturbance lying over Bosnia and Servia, 30·0 ins. and less in another system lying to the westward of our Islands. Small shallow depression appearing later over central Spain and barometer falling over France, Spain, and the south-east of England.

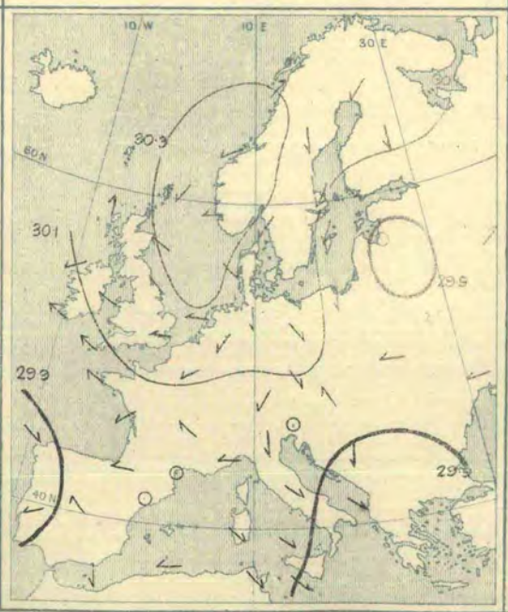
Friday, 23rd May.

Temperature and Weather. 8 a.m.

Weather fine and bright, except in the western parts of Ireland and Scotland on the one hand, and over several parts of Russia on the other. Fog reported at Corunna, haze in a few other places, but no rain reported, except at Bodö and in some parts of Spain, Portugal, and the Baltic Provinces of Russia.

Temperature exceeding 60° at a large number of stations over the British Islands, western, southern, central, and eastern Europe; 73° at Trieste, 69° at Florence and Brindisi, and 68° at Lesina. Much lower over Lapland, Finland, and northern Russia; 42° at Bodö, 46° at Kuopio, 47° at Haparanda, and 49° at Sumburgh Head. Daily maxima 70° to 73° over England and central Ireland, 77° at Wiesbaden and Paris, and 84° at Rochefort; ranging from 75° to 79° over Italy and from 75° to 90° at the Algerian stations.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind anti-cyclonic; Northerly over the Baltic and north Germany, North-Easterly to Easterly over France, the Channel, and England, South-Easterly in Ireland and Scotland, South-Westerly at Bodö. Force strong in the Channel and at several Baltic stations, light or moderate elsewhere.

Barometer highest, 30·1 ins. to 30·3 ins. and more, in a large anti-cyclone covering the whole of north-western Europe. Lowest, 29·9 ins. and less, over the Baltic Provinces and western Russia, over south-eastern Europe, Portugal, and adjacent part of Atlantic. Barometer falling somewhat over Spain, France, and the British Islands later; new depression appearing over Spain and moving northwards.

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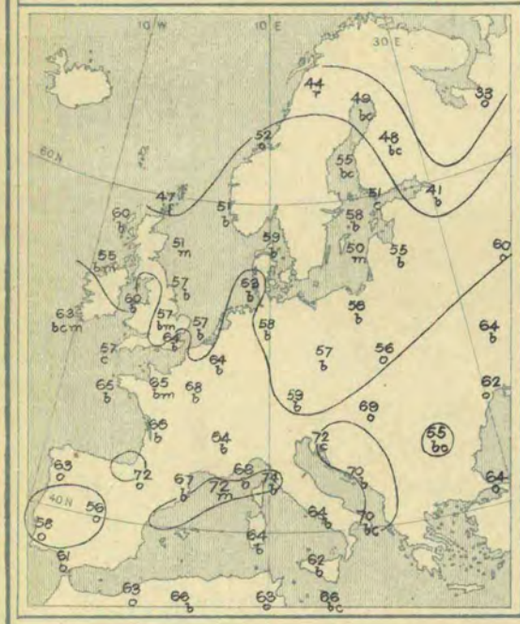
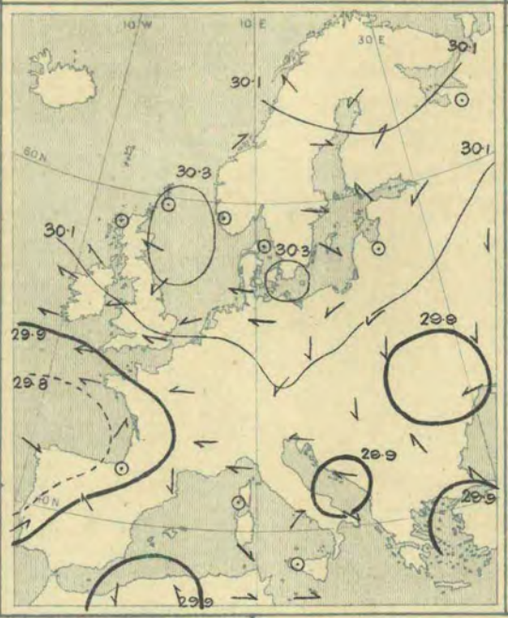
Saturday, 24th May.

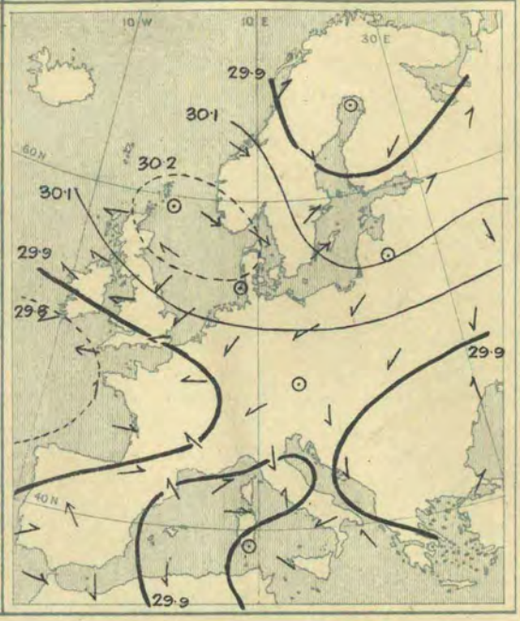
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over nearly the whole of Europe, but dull, unsettled, and at some stations rainy, in the extreme north and south-west of Russia and over the western part of Algeria. Thunderstorms later in some parts of France and the south-western parts of the British Islands; fine, bright, and warm weather over the remainder of our Islands; cold rain at most of the Scandinavian stations.

Temperature variable between 65° and 75° at the Mediterranean stations, and exceeding 60° over the greater part of western and south-eastern Europe. Lower elsewhere, and as low as 33° at Archangel, 41° at St. Petersburg, 44° at Bodö, 47° at Sumburgh Head, and 50° at Leith. Falling decidedly over northern Europe and the north-east of Scotland later, but rising to between 70° and 78° over England and Ireland, and to between 80° and 86° at many French stations.

Wind mainly anti-cyclonic; Easterly over north Germany, the north of France, the Channel, and England, South-Easterly in Ireland, very variable and light in Scotland and over Scandinavia. Cyclonic circulation of light winds prevailing over south-eastern Europe and Algeria. Strong North-Westerly winds setting in over Sweden and Norway later, but little change observed in the British Islands.

Barometer highest, 30·1 ins. to 30·3 ins. and more, in a large anti-cyclonic system lying over the north-eastern parts of the British Islands, the North Sea, Scandinavia, the Baltic, and north Germany. Lowest, 29·9 ins. and less, in shallow depressions over south-western Russia, the Adriatic, and Algeria, and 29·8 ins. and less in a larger one over the north-west of Spain and Bay of Biscay. Latter disturbance moving north-eastwards later and new one advancing over Finland from the northward.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the first half of this week barometric pressure continued highest over northern, lowest over western and southern Europe, and in the latter regions several depressions appeared. Some of these moved in a northerly direction outside our extreme south-western and western coasts, causing rainy unsettled weather in many (especially the western) parts of the British Islands and France, and another (very shallow) system showed itself over south-eastern Europe, but had no definite movement. On Monday a well-marked system appeared near Bilbao, whence it moved north-eastwards, and reached the neighbourhood of Caen by the same evening. It then moved north-westwards across the Channel and the south-western parts of the British Islands, causing rain or hail in almost all parts of France, England and Ireland, and thunderstorms in very many places.

An important change now occurred; the northern high-pressure area gave way, and on Wednesday a new anti-cyclonic system was developed over France. This moved northwards to the North Sea, where it grew, and spread quickly over nearly the whole of our area. The weather cleared up very decidedly and generally, the air became dry, and the day-temperatures high, though the nights were cool. On Saturday, however, depressions again began to appear over the Bay of Biscay and France, and soon caused a renewal of the thunderstorms at many of the French stations, as well as in the Channel Islands and over the south-western parts of the United Kingdom. Another depression came over Lapland and Finland from the northward, and, growing deeper, moved down the Gulf of Bothnia. This produced a rapid decrease of temperature over Scandinavia, accompanied by considerable falls of cold rain.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January and February,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 22.] *Third Series.* WEEK ENDING SATURDAY, 31ST MAY, 1890. [*Price 6d.* [*Annual subscription, post paid.* £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 128.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	65	34	52·4	41·0	46·3	3 below.	34	−11	3	− 1	506	+129	438	− 70
	1. SCOTLAND, EAST	74	34	57·0	41·1	48·6	2 below.	50	−14	3	− 1	584	+ 56	485	− 58
	2. ENGLAND, N.E.	69	34	55·9	42·6	48·9	3 below.	48	−18	0	− 2	566	+ 25	389	− 93
	3. ENGLAND, EAST	74	33	60·6	43·1	51·3	3 below.	65	−14	0	− 2	699	+ 7	468	− 39
	4. MIDLAND COUNTIES	76	32	62·0	41·4	51·1	3 below.	66	−14	2	− 0	732	+ 8	478	− 26
	5. ENGLAND, SOUTH	81	35	63·2	45·9	54·0	1 below.	84	− 2	0	− 1	805	+ 29	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	70	33	58·6	41·6	49·6	2 below.	55	−12	1	− 1	659	+·79	325	− 73
	7. ENGLAND, N.W.	73	34	59·1	43·7	51·0	3 below.	63	− 9	0	− 1	670	+ 64	302	− 81
	8. ENGLAND, S.W.	77	29	61·5	46·8	53·7	1 below.	82	+ 3	0	0	803	+ 27	245	+ 12
	9. IRELAND, NORTH	79	29	58·9	44·2	51·1	2 below.	64	− 4	0	−·1	690	+ 32	295	− 55
	10. IRELAND, SOUTH	74	32	61·3	46·9	53·6	0 (average)	81	+ 5	0	− 1	832	+ 21	225	− 14
	— CHANNEL ISLANDS	68	47	58·0	50·6	54·0	1 below.	84	+ 1	0	0	965	+106	71	− 22

Rainfall.

	DISTRICTS. (See p. 128.)	For the Week. Number of Rainy Days.	For the Week. Total Fall.	For the Week. More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Total Fall.	From December 29th, 1889. Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	7	1 less.	102	+ 5	19·3	− 1·2
	1. SCOTLAND, EAST	3	3	2 less.	86	+ 9	11·5	− 0·6
	2. ENGLAND, N.E.	2	3	2 less.	74	− 2	8·1	− 1·9
	3. ENGLAND, EAST	2	1	3 less.	78	0	8·4	− 0·9
	4. MIDLAND COUNTIES	1	2	3 less.	72	− 3	8·6	− 2·3
	5. ENGLAND, SOUTH	1	1	3 less.	74	+ 2	10·0	− 0·9
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	2	5	2 less.	90	+ 3	19·0	− 2·2
	7. ENGLAND, N.W.	1	4	1 less.	84	+ 6	12·1	− 0·4
	8. ENGLAND, S.W.	2	4	2 less.	86	+ 3	14·7	− 2·5
	9. IRELAND, NORTH	2	4	1 less.	95	+ 1	12·0	− 1·7
	10. IRELAND, SOUTH	3	4	2 less.	98	+ 9	18·2	+ 1·7
	— CHANNEL ISLANDS	3	6	2 more.	93	+ 3	13·5	+ 0·2

Bright Sunshine.

	DISTRICTS. (See p. 128.)	For the Week. Hours recorded.	For the Week. Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Percentage of possible Duration.	From December 29th, 1889. Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	26	22	489	−55	27	− 3
	1. SCOTLAND, EAST	43	36	533	−85	30	− 4
	2. ENGLAND, N.E.	40	35	510	−38	28	− 2
	3. ENGLAND, EAST	56	50	659	− 4	37	0
	4. MIDLAND COUNTIES	62	55	574	−13	32	0
	5. ENGLAND, SOUTH	59	53	621	+ 6	34	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	74	64	581	+ 9	32	+ 1
	7. ENGLAND, N.W.	68	59	546	−29	30	− 1
	8. ENGLAND, S.W.	52	47	649	−14	36	0
	9. IRELAND, NORTH	67	59	594	+ 5	33	+ 1
	10. IRELAND, SOUTH	55	49	632	−19	35	− 1
	— CHANNEL ISLANDS	37	34	753	−42	42	− 2

General Remarks.

Weather during this period has been generally fine over the greater part of England, but in Ireland and Scotland it has occasionally become unsettled and rainy. Smart thunderstorms were experienced over the south-west of England and in some parts of Ireland on the 25th. Showers of snow and hail occurred in the north of Scotland on the 30th.

Temperature was high at the commencement of the week, when the maxima varied from 65° to 74° in Scotland, from 74° to 79° in Ireland, and from 69° to 81° over England. It soon fell, however, and became low for the time of year. During the latter part of the time the minima were unusually low. On the night of the 30th–31st the sheltered thermometer fell to 29° in "England S.W." and "Ireland N." to 32° in the "Midland Counties" and "Ireland S.," and to between 33° and 35° in most other districts. In the "Channel Islands" the lowest reading was 47°. The average value for the week has just equalled the mean in "Ireland S.," but in all other districts it has been below, the deficit having ranged from 1° to 3°.

Rainfall has been rather more than the mean in the "Channel Islands," but in all other parts of the Kingdom it has been less than the normal amount.

Bright Sunshine has been fairly prevalent in all districts excepting "Scotland N." In that district the percentage of the possible duration was only 22, but over the greater part of England and Ireland the percentage ranged from 47 to 59, while in "Scotland W." 64 per cent. was recorded.

Barometer and Wind.—At the commencement of the period shallow low-pressure systems lay over our south-western districts, but as these disappeared the distribution of pressure became anti-cyclonic, and no other depressions appeared immediately over us. Light or moderate winds between North and East were prevalent over the United Kingdom during the early part of the week, but subsequently moderate winds from the North-Westward were most general.

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III.—DATA from which the SUMMARY on page 127 has been calcu...

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0 SCOTLAND, N.	Sumburgh Head ⚓	52	35	49·9	40·7	45·0	—3·2	26	4	5	0·55	+0·15	*	*
	Stornoway ⚓	54	35	51·9	42·0	46·7	—2·5	33	0	4	0·24	—0·37	30·6	26
	Wick ⚓	54	36	53·0	41·3	46·8	—1·9	37	2	5	0·42	+0·04	*	*
	Lairg ⚓	58	34	52·2	40·5	46·0	—2·0	34	4	4	0.54	0·00	*	*
	Glencarron ⚓	65	34	52·9	39·4	45·7	—3·0	37	7	4	1·67†	+0·50	?	?
	Fort Augustus ⚓	58	36	54·5	41·8	47·8	—3·2	41	1	5	0·46†	?	20·6	17
1. SCOTLAND, E.	Nairn ⚓	58	39	53·6	43·4	48·2	—3·1	43	0	5	0·24	—0·16	*	*
	Aberdeen ⚓	58	38	53·7	43·0	48·0	—1·9	42	0	6	0·25	—0·17	39·3	33
	Braemar ⚓	73	35	58·7	38·3	47·9	—0·3	57	10	4	0·50	0·00	39·2‡	33‡
	Ochtertyre ⚓	74	36	62·7	39·6	50·5	—0·5	70	7	1	0·08	—0·50	*	*
	Leith ⚓	71	37	58·7	42·6	50·2	—2·1	57	0	1	0·17	—0·23	*	*
	Marchmont ⚓	63	34	54·6	39·7	46·7	—3·6	43	6	2	0·35	—0·22	49·8	43
2 ENGLAND, N.E.	Alnwick Castle ⚓	58	37	53·4	42·4	47·6	—3·0	39	0	2	0·25	—0·23	*	*
	Durham ⚓	65	35	56·7	39·9	47·8	—4·4	49	6	2	0·38	—0·10	29·9	26
	Shields ⚓	58	34	54·1	42·4	47·9	—3·0	41	0	2	0·26	—0·14	*	*
	Scarborough ⚓	59	38	54·1	42·8	48·1	—3·8	43	0	3	0·33	—0·10	44·8‡	39‡
	York ⚓	69	37	62·0	41·9	51·4	—2·2	66	0	2	0·15	—0·25	46·3	40
	Spurn Head ⚓	59	42	55·0	46·3	50·4	—2·3	59	0	3	0·19	?	*	*
3. ENGLAND, E.	Hillington ⚓	67	33	61·6	42·3	51·4	—1·2	66	0	3	0·13	—0·31	55·1	49
	Yarmouth ⚓	60	38	57·3	45·9	51·3	—2·0	65	0	3	0·20	—0·22	*	*
	Geldeston ⚓	65	35	60·0	42·0	50·5	—3·9	60	0	2	0·11	—0·29	57·0	51
	Cambridge ⚓	74	38	62·6	43·1	52·3	—1·6	72	0	1	0·09	—0·35	55·8	50
	Rothamsted ⚓	73	36	60·3	42·1	50·9	—4·0	62	0	1	0·08	—0·41	*	*
	Ingatestone ⚓	72	35	61·2	43·0	51·6	—3·0	67	0	1	0·11	—0·30	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ⚓	76	35	64·6	40·4	51·8	—2·4	75	4	1	0·12	—0·36	52·5‡	46‡
	Loughborough ⚓	74	37	63·0	42·0	51·9	—2·5	69	0	1	0·15	—0·33	56·3‡	50‡
	Cheadle ⚓	68	35	59·0	41·3	49·6	—3·8	56	2	1	0·23	—0·33	*	*
	Churchstoke ⚓	70	34	59·9	37·6	48·1	—5·0	61	12	1	0·23	—0·22	61·1	54
	Hereford ⚓	72	37	63·5	44·2	53·3	—1·1	79	0	1	0·04	—0·43	*	*
	Cirencester ⚓	71	32	61·1	41·6	50·8	—3·6	63	1	1	0·13	—0·35	69·0	62
	Oxford ⚓	74	36	62·9	42·7	52·2	—2·2	71	0	1	0·15	—0·28	69·2	62
5. ENGLAND, S.	London ⚓	76	40	63·4	46·6	54·5	—1·4	88	0	2	0·08	—0·34	53·4‡	48‡
	Strathfield Turgiss ⚓	76	35	65·1	? 43·2	? 53·5	?—0·2	? 81	0	1	0·10	—0·28	*	*
	Dungeness ⚓	65	36	60·3	46·1	52·8	—1·9	76	0	1	0·04	—0·36	66·1‡	60‡
	Hastings (St. Leonards) ⚓	73	38	61·6	46·1	53·4	—1·6	80	0	2	0·22	—0·18	52·5	56
	Southampton ⚓	81	38	67·1	46·4	56·1	+1·0	99	0	0	—	—0·45	62·8	57
	Hurst Castle ⚓	70	40	63·3	47·9	55·1	+0·4	92	0	1	0·04	—0·36	*	*
	Stowell ⚓	75	38	61·4	44·9	52·7	—0·4	75	0	1	0·03	?	50·6‡	46‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	70	39	56·5	41·7	48·7	—1·8	48	1	4	0·87†	—0·10	*	*
	Glasgow ⚓	63	38	58·1	42·9	50·0	—1·2	56	0	1	0·30	—0·27	67·5	58
	Ardrossan ⚓	66	35	60·4	41·7	50·5	—1·2	61	1	1	0·36	—0·16	*	*
	Glenlee ⚓	69	33	59·2	37·5	47·7	—3·1	59	13	1	0·47	—0·16	*	*
	Douglas (Isle of Man) ⚓	68	41	58·5	44·2	50·9	—0·8	62	0	2	0·39	—0·06	80·0	70
7. ENGLAND, N.W.	Newton Reigny ⚓	69	34	58·3	38·6	47·9	—3·4	56	10	1	0·20	—0·25	67·4	58
	Stonyhurst ⚓	67	37	58·2	41·2	49·2	—4·1	54	2	1	0·80	+0·14	70·8	62
	Blackpool ⚓	73	38	61·0	44·4	52·2	—2·1	71	0	2	0·35	—0·11	? 63·4	? 55
	Manchester ⚓	70	36	60·4	41·5	50·4	—3·9	61	1	1	0·66	+0·08	*	*
	Liverpool Obsy. (Bidston) ⚓	73	42	58·9	46·3	52·2	—2·0	71	0	3	0·21	—0·21	*	*
	Llandudno ⚓	68	43	58·0	46·2	51·8	—2·9	69	0	1	0·30	—0·10	69·1	61
	Holyhead ⚓	68	45	59·1	47·9	53·2	—0·3	78	0	1	0·09	—0·33	*	*
8. ENGLAND, S.W.	Llandovery ⚓	76	29	65·6	41·1	52·6	—1·2	78	3	1	0·07	—0·56	*	*
	Pembroke ⚓	67	43	57·4	48·6	52·7	—1·0	75	0	2	0·10	—0·35	57·3	51
	Arlington (N. Devon) ⚓	73	38	60·3	44·3	51·8	—2·3	69	0	2	0·27	—0·45	*	*
	Cullompton ⚓	77	38	64·5	45·0	54·2	—0·8	85	0	3	1·11	+0·61	58·7	53
	Falmouth ⚓	67	43	58·6	47·7	52·8	—1·7	76	0	3	0·58	—0·04	47·9	44
	Plymouth ⚓	75	45	66·3	50·3	57·8	+2·6	111	0	1	0·26	—0·22	44·0	40
	Prawle Point ⚓	67	45	57·6	50·3	53·7	0·0	82	0	2	0·21	?	*	*
9. IRELAND, N.	Malin Head ⚓	60	43	53·6	46·4	49·8	—1·4	55	0	3	0·47	?	*	*
	Londonderry ⚓	79	40	60·7	44·4	52·1	—0·3	71	0	3	0·89	+0·34	*	*
	Mullaghmore ⚓	69	41	57·1	45·7	51·1	—2·7	64	0	2	0·46	—0·18	*	*
	Belmullet ⚓	75	38	59·4	48·7	53·7	+1·3	82	0	3	0·37	?	*	*
	Markree Castle ⚓	72	29	59·2	39·7	48·9	—4·5	58	6	1	0·32	—0·18	68·2	59
	Brookeborough ⚓	72	32	60·6	40·2	49·8	—3·8	61	5	1	0·24	?	*	*
	Armagh ⚓	70	36	60·1	41·5	50·2	—3·0	60	1	3	0·40	—0·07	66·3	58
	Donaghadee ⚓	66	46	58·9	49·3	53·8	+1·3	83	0	2	0·25	—0·23	*	*
	Edgeworthstown ⚓	69	34	60·6	41·7	50·6	—2·0	61	1	1	0·31	—0·26	*	*
10. IRELAND, S.	Dublin ⚓	65	43	60·0	47·7	53·3	—0·4	79	0	1	0·24	—0·19	75·4	67
	Parsonstown ⚓	72	32	62·3	43·6	52·4	—1·4	73	0	1	0·12	—0·40	59·7	53
	Kilkenny ⚓	70	35	61·4	45·3	52·9	—0·5	76	0	1	0·04	—0·41	*	*
	Waterford ⚓	68	39	62·9	45·8	53·8	—1·2	83	0	1	0·02	—0·51	*	*
	Roche's Point ⚓	65	45	60·6	49·9	54·9	—0·2	90	0	4	0·62	—0·08	*	*
	Valencia ⚓	65	45	58·7	50·7	54·5	+0·8	88	0	5	1·06	+0·36	30·2	27
	Killarney ⚓	73	38	62·1	45·4	53·3	—0·2	79	0	4	0·37	?	*	*
	Foynes ⚓	74	42	62·5	46·4	54·0	+0·7	84	0	3	0·31	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ⚓	59	47	56·6	49·7	52·9	—1·8	76	0	3	0·61	+0·21	*	*
	Jersey ⚓	68	49	59·3	51·4	55·1	—0·6	92	0	3	0·63	+0·23	37·0	34

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

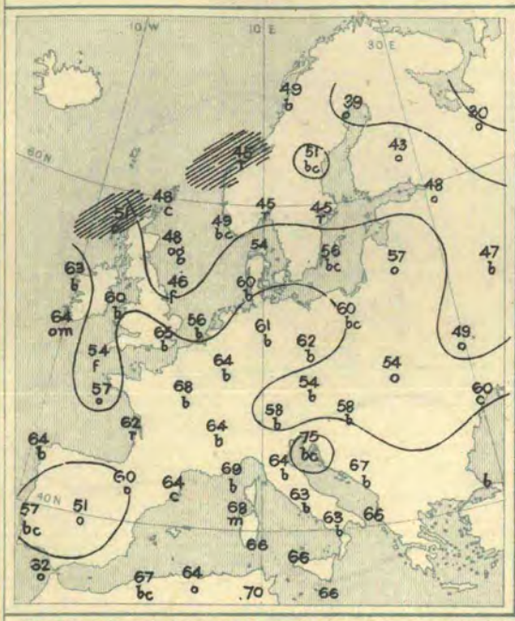
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

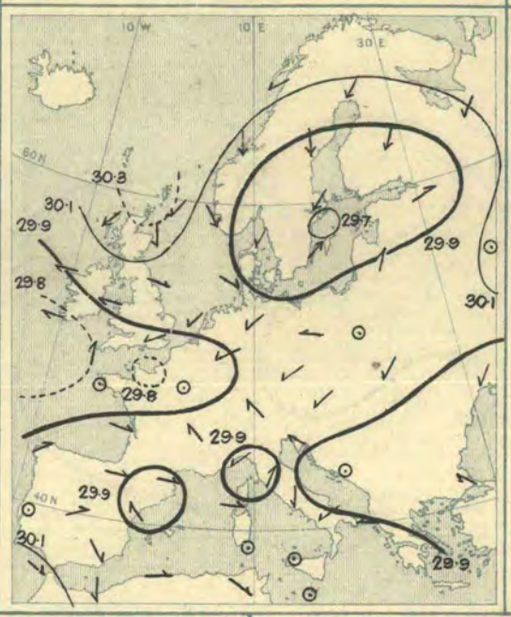
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 25th May.

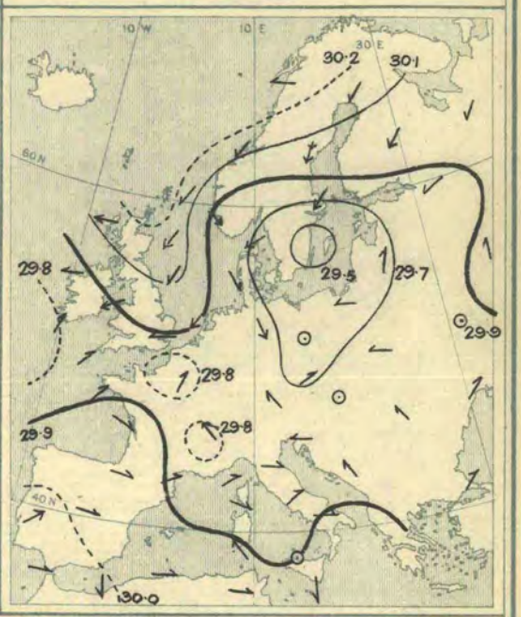
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and gloomy over nearly the whole of northern Europe, with cold rain at several Scandinavian stations, gloomy on many parts of our south-western coasts and in the west of France, with fog, rain, and thunder at times. Fine generally elsewhere. Thunderstorms and rain later in many parts of France, the Channel Islands, and south-western parts of the United Kingdom, and considerable falls of cold rain over the Baltic and southern half of Scandinavia.

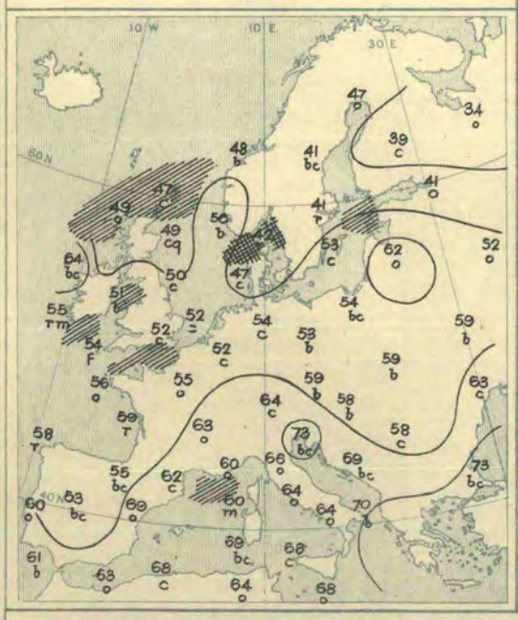
Temperature falling fast in north, still high (above 60°) over England and France. Morning readings ranging from 63° to 70° at the Mediterranean stations, and exceeding 60° over southern Russia. Below 50° at many northern stations, and as low as 30° at Archangel, 39° at Haparanda, 43° at Kuopio, 47° at Moscow, and 48° in the north and east of Scotland. Rising to above 80° in several parts of Algeria and over France during day, and to above 70° in Italy and over England. Cold in north spreading southwards with modified severity later, and affecting London by evening.

Wind Northerly on our north-eastern coasts, North-Easterly in the east and south, Easterly in the west; Westerly over the Bay of Biscay and Spain, very variable over France and Mediterranean. Complete cyclonic circulation prevailing over Baltic and Scandinavia (Northerly gales in several places). North-Easterly winds freshening in our Islands later, while the Westerly wind reached the mouth of the English Channel; Northerly wind freshening on eastern shores of North Sea.

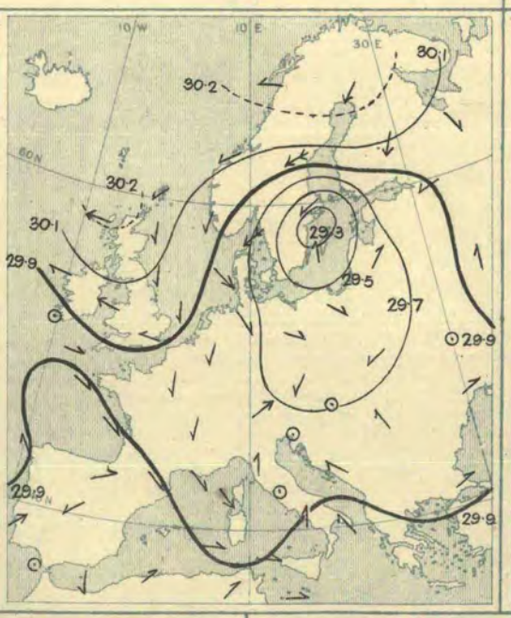
Barometer highest, 30·0 ins. to 30·2 ins., over the north-western parts of the British Islands, north of Scandinavia, and the adjacent parts of the Atlantic, 29·9 ins. to 30·0 ins. over Spain and the south-west of France, and exceeding 29·9 ins. over all the southern parts of the Mediterranean. Lowest, about 29·7 ins., in large depression, centre of which lay near Stockholm, 29·8 ins. and less in two others—one off our south-western coasts, the other near Havre. Baltic depression growing deeper later, that over France filling up, that in south-west moving westwards.

Monday, 26th May.

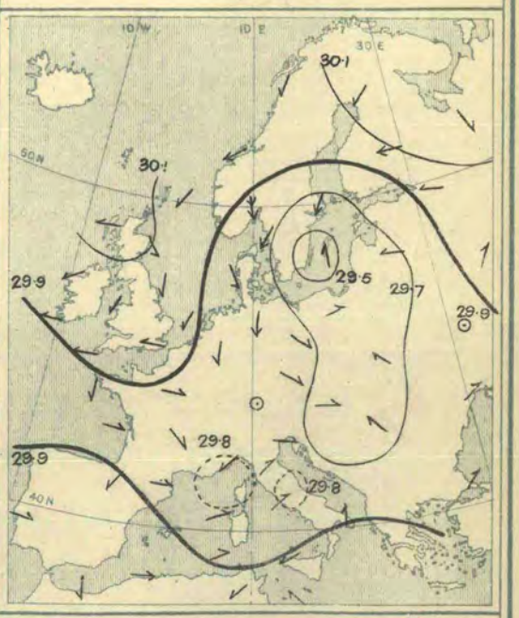
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather still fine over the greater part of England and northern portions of Ireland, as well as over southern and south-eastern Europe, clear and bright in Norway. Very unsettled over the Baltic, south of Sweden, and some parts of north Germany, dull and rainy on our own south-west coasts, in the west of France, and the Reviera. Rainfall considerable later on our south-west coasts, at many of the Baltic stations, and at Belfort, as well as at some in the south-eastern and southern parts of France; smaller quantities in north of Italy and at Berne.

Temperature varying from 60° to 70° on the shores of the Mediterranean and Adriatic, and exceeding 60° in some parts of south Germany, Austria, and southern Russia; much lower elsewhere, below 50° over Scotland and Scandinavia, and as low as 34° at Archangel, 36° at Helsingfors, 39° at Kuopio, and 41° at Hernösand, Stockholm, and St. Petersburg. Not exceeding 65° over England during the day, but ranging between 70° and 79° over the southern parts of France, and exceeding 80° in some portions of Italy and Algeria.

Wind Easterly on our western coasts and over the greater part of England, Northerly (moderate) at our eastern and north-eastern stations and in the Netherlands, North-Easterly (strong to a gale) over the Skager Rack and the Gulfs of Bothnia and Finland, Westerly over north Germany, South-Westerly over the Baltic Provinces. Wind becoming strong in Norway and the Skager Rack later, and blowing a strong gale in Finland; not much change elsewhere.

Barometer highest, 30·1 ins. to 30·2 ins. and more, over Scotland, the northern parts of Scandinavia and Finland, about 30·0 ins. over the Spanish Peninsula, and exceeding 29·9 ins. on southern shores of the Mediterranean. Lowest, 29·3 ins. and less, in a deep depression near Stockholm, and 29·6 ins. to 29·8 ins. in shallow secondary disturbances over Germany and the east and south of France. Depression near Stockholm beginning to fill up later.

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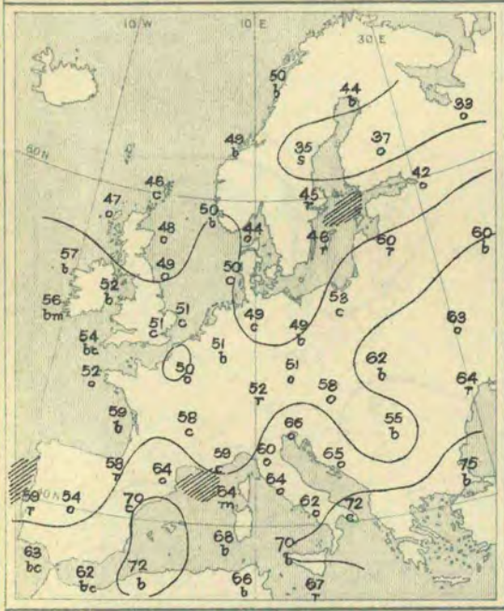
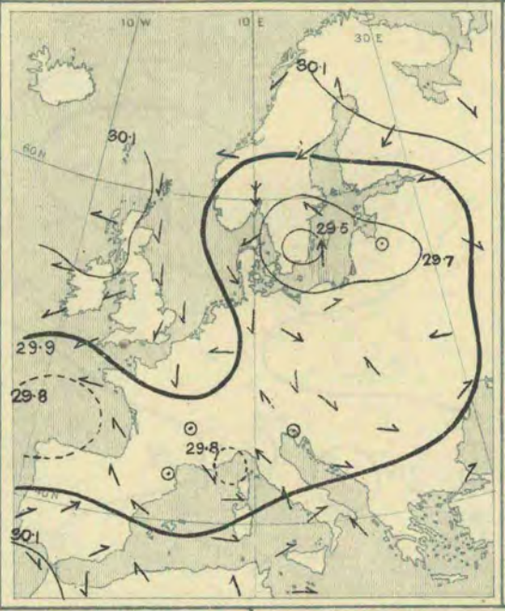
Tuesday, 27th May.

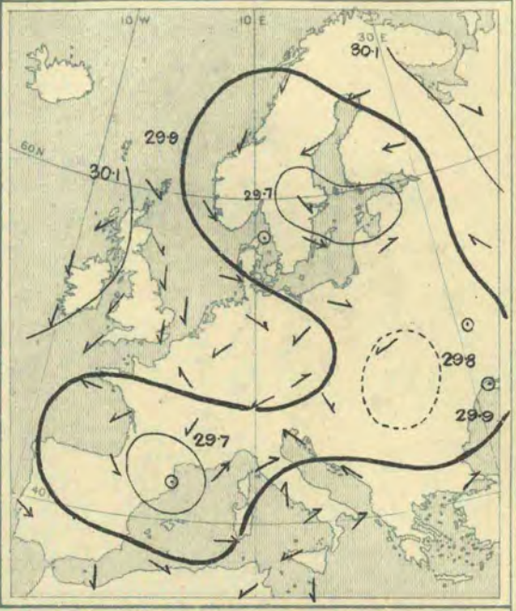
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over many parts of the United Kingdom and Norway, and dry at all our stations, though dull in places; fine and bright over central and southern Russia also, as well as on the southern shores of the Mediterranean; dull, wet, and unsettled over the Baltic and Sweden (snow at Hernösand), and also over the Spanish Peninsula and south-west of France. Much rain and some thunderstorms over the southern parts of France and Germany later, smaller quantities of rain over Sweden and Finland, very slight showers at some of our own northern and north-eastern stations.

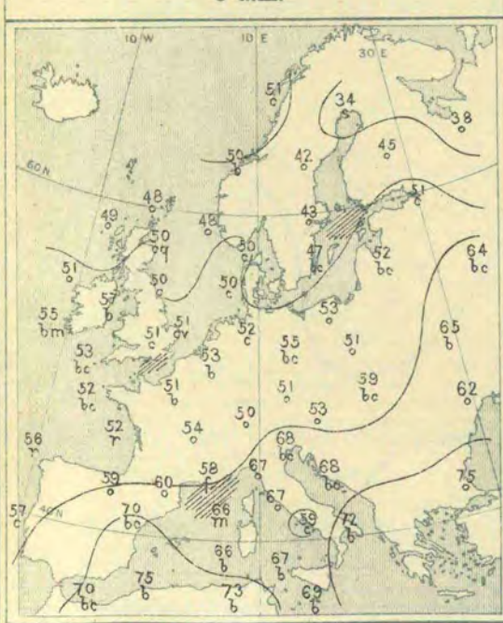
Temperature low, except in the far south. Morning readings, 75° at Constantinople, 72° at Brindisi, and 70° at Barcelona; above 60° at most of the Mediterranean stations, over south-eastern Europe, and southern Russia; varying from 46° to 56° in the British Islands, but as low as 33° at Archangel, 35° at Hernösand, 37° at Kuopio, 43° at Helsingfors, and 44° at Haparanda. Continuing below 60° over the greater part of the British Isles during the day, but rising to above 70° over the south and west of France and north of Italy, and exceeding 80° at Brindisi and in some parts of Algeria.

Wind Northerly (light to moderate) over North Sea and eastern parts of Great Britain, North-Easterly to Easterly at our western stations, in Ireland, the Channel, and Brittany. Cyclonic circulation of moderate to strong winds prevailing over the Baltic and surrounding countries, North-Westerly breezes over central Europe, and South-Westerly over the Spanish Peninsula. Veering to North-West over Spain later, and becoming Easterly over the north of France; circulation over Baltic and Scandinavia undergoing great modification.

Barometer highest, 30·0 ins. to nearly 30·2 ins., over the western and northern parts of the British Islands, and also over the northern parts of Finland and Russia, 29·9 ins. to 30·1 ins. over the southern half of Spain and the northern parts of Africa. Lowest, about 29·5 ins. in a depression over Baltic and south of Sweden, 29·8 ins. and less in another over the Bay of Biscay. Former depression filling up considerably later, latter moving eastwards over the south-west of France, and a new shallow disturbance appearing over Hungary.

Wednesday, 28th May.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.

Weather fine and bright over the greater part of the British Islands and north-western Europe, south-eastern Europe, and on the southern shores of the Mediterranean; changeable and unsettled elsewhere—dull in most localities and rainy in many. A good deal of rain over the southern parts of France, the north of Italy, Austria-Hungary, and southern Russia later, and smaller quantities in Scandinavia and Scotland. Sky beginning to look less fair than of late over London.

Temperature inclined to recover a little in extreme north-west, low, with a tendency to fall, elsewhere. Morning values ranging between 65° and 75° over southern and eastern parts of Mediterranean, and exceeding 60° over southern Russia, much lower elsewhere; below 50° at several of our own stations and as low as 34° at Haparanda, 38° at Archangel, 42° at Hernösand, 45° at Helsingfors and Faerder, 48° at Sumburgh Head. Rising to 71° at Leith and 69° at York later, but to only 66° in London; to between 60° and 70° over the greater part of France, to between 70° and 80° over Italy, and to between 85° and 90° in many parts of Algeria. Highest of all, 95° at Laghouat.

Wind light to fresh from the Northward (North-West to North-East) in our Islands and the west and north of France, North-Westerly over the North Sea, South-Easterly and Southerly (moderate to strong) over the eastern parts of the Mediterranean, Westerly to South-Westerly over the Baltic Provinces and Finland, variable elsewhere. Backing a little at our northern stations later; no important change elsewhere.

Barometer highest, 30·1 ins. to 30·3 ins., over Portugal, the western parts of our Islands, and adjacent portions of the Atlantic, 30·0 ins. to 30·1 ins. over the northern and eastern parts of Russia, lower over the intermediate regions. Lowest, 29·7 ins. and less, in a shallow complex disturbance over Scandinavia and in another system over the south of France. Rising at the French stations later as the depression in the south moved north-eastwards, but falling a little in Scotland and Norway.

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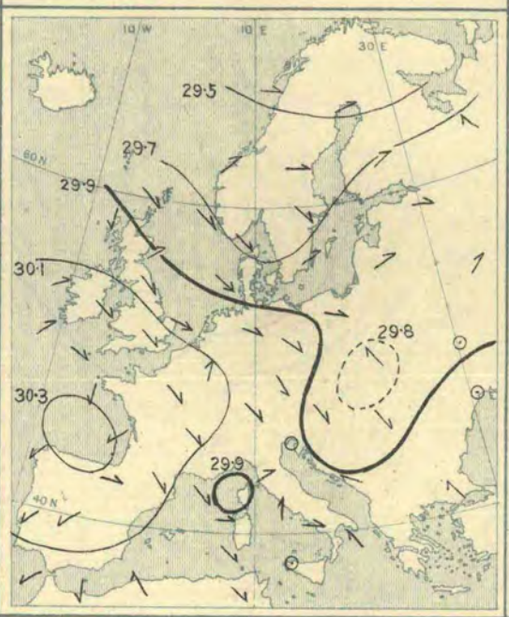
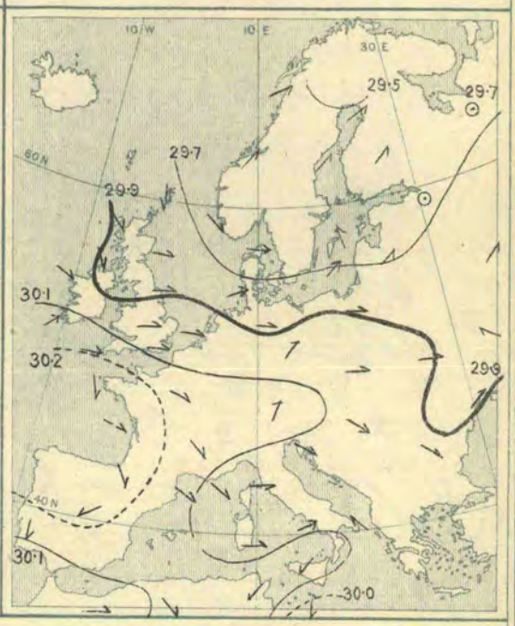
Thursday, 29th May.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the Bay of Biscay, France, Spain, the southern parts of the Mediterranean, south-eastern Europe, and central Russia; cloudy, or overcast, and unsettled elsewhere, with rain over the north of the British Isles, central Europe, and the south of France. Some rain falling generally over our Islands and their neighbourhood later (except in the south of England) and small quantities over Scandinavia and Germany, as well as in many localities in other parts of Europe.

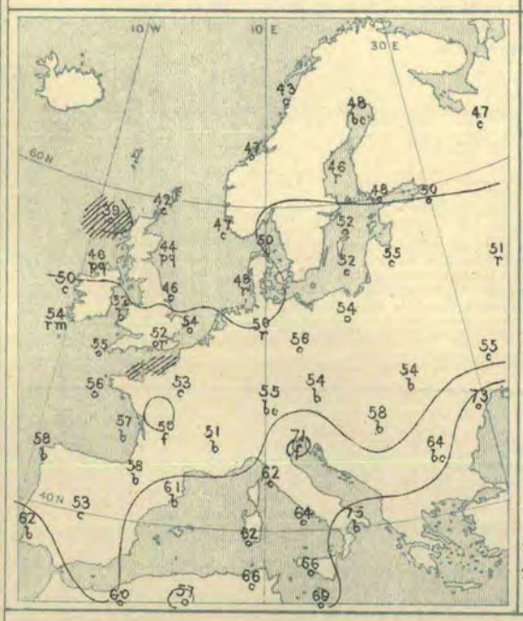
Temperature changing irregularly. Morning readings 76° at Constantinople, and ranging between 65° and 72° over the southern parts of the Mediterranean, lower elsewhere—below 50° over the north of our Islands, Norway, and northern Europe, and as low as 42° at Ulealborg and Kuopio, 44° at Bodö and Archangel, 45° at St. Petersburg, 46° at Sumburgh Head and Helsingfors. Rising later to between 60° and 65° in many parts of the British Isles, and to between 65° and 70° in several parts of France, but not touching 60° in Germany. Maxima over southern Italy 80° to 86°, while in some parts of Algeria the thermometer rose to 99°.

Wind South-Westerly (light) over Finland, the northern parts of Russia, and the Baltic Provinces, Westerly on the German coast, North-Westerly over the North Sea and Great Britain, as well as over western Germany and Austria. Anti-cyclonic circulation of light winds over Spain, France, England, and Ireland; small cyclonic circulations over Austria-Hungary and the north-eastern shores of the Mediterranean. New cyclonic circulation advancing to our north-western districts later; Hungarian circulation breaking up.

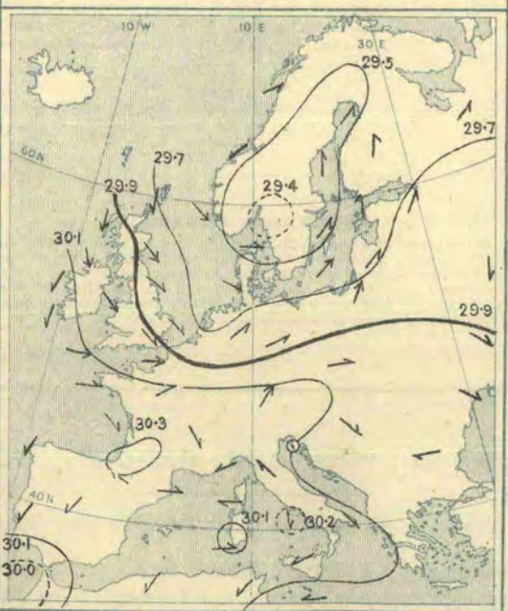
Barometer highest, 30·1 ins. to 30·3 ins., over western Europe, and exceeding 29·9 ins. over the Balkan Peninsula and southern Russia. Lowest, 29·5 ins. and less, in a low-pressure area over Lapland, 29·7 ins. and less in a small depression between Lemberg and Buda-Pesth, and about 29·9 ins. over the Gulf of Genoa. New secondary depression advancing to our north-west coasts later and travelling south-eastwards towards North Sea; that over Austria-Hungary filling up.

Friday, 30th May.

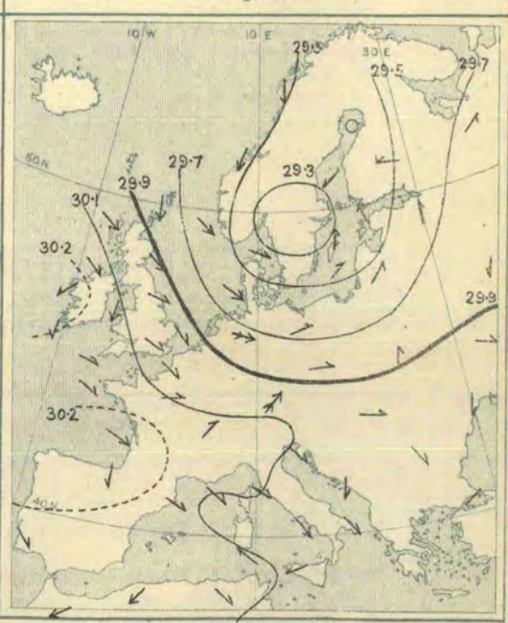
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright in Portugal, the south of Spain, south of France, as well as in Austria and south and east Germany; cloudy, more or less, elsewhere, with rain in many localities, both in the British Isles and on the Continent. Rain during some part of the day over all the north-western and western parts of Europe, but amounts small except at Shields and Hernösand. Heavy falls occurring over central Algeria.

Temperature low in most places. Morning readings exceeding 70° at Brindisi only, above 60° on all shores of the Mediterranean and Adriatic, lower elsewhere; below 50° in the north and north-east of the British Isles and over Scandinavia, and as low as 39° at Stornoway, 42° at Sumburgh Head, 43° at Haparanda, 44° at Nairn and Aberdeen, and 46° at Malin Head, Shields, Hernösand, and Hangö. Daily maxima over our Islands below 60° at all but the most southern stations, and below 50° in the extreme north, but thermometer exceeding 70° in most parts of southern Europe. Ground frost occurring at some of our own inland stations at night.

Wind Northerly (moderate to strong) over our Islands, Westerly over the Netherlands and Western Germany, South-Westerly to Southerly over the Baltic, very variable elsewhere, anti-cyclonic over the Bay of Biscay and Spain. Becoming more Westerly over the Bay of Biscay later, and increasing to a moderate gale from North-West at Aberdeen and on the eastern shores of the North Sea; freshening in London also.

Barometer highest, 30·1 ins. to 30·3 ins., in a high-pressure system covering Spain, France, the west of Ireland, and adjacent parts of the Atlantic, exceeding 30·1 ins. over Switzerland, Italy, and south-east of France. Lowest, 29·4 ins. and less, in central part of a large shallow depression lying over Scandinavia, 30·0 ins. and less over Morocco. Shallow secondary disturbances moving south-eastwards over our Islands. Scandinavian depression becoming somewhat deeper later and occasioning rather steep gradients over Denmark and the North Sea.

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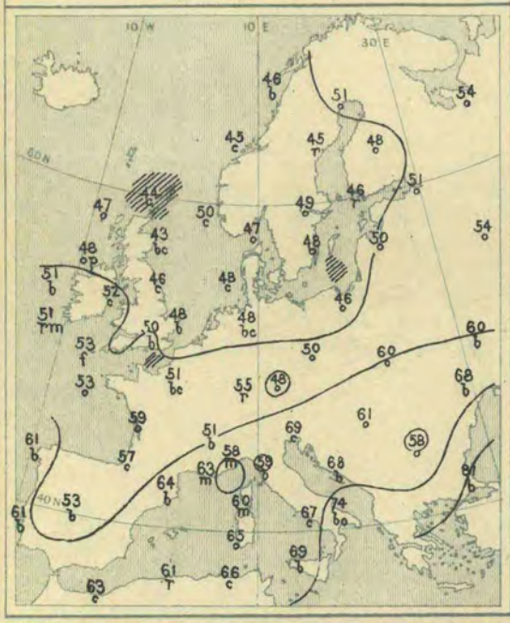
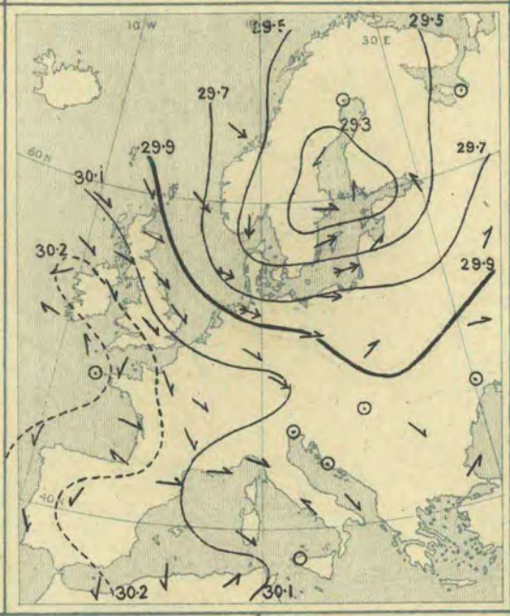
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 31st May.

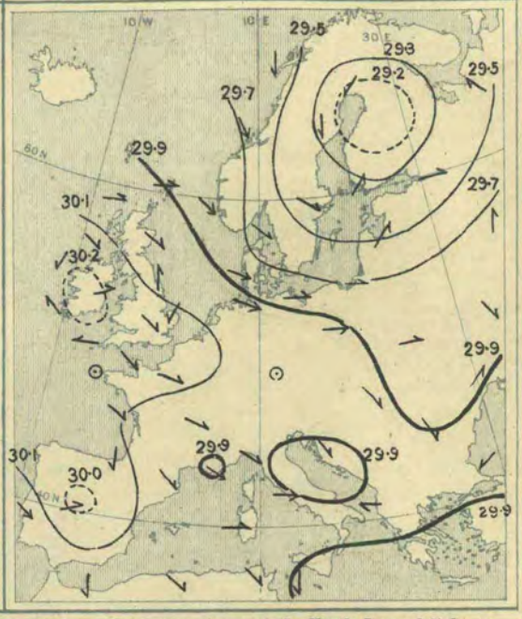
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fair or fine over the greater part of western, southern, and eastern Europe, but dull in the extreme south-west of the United Kingdom, with rain at Valencia Island and fog at Scilly. Dull and unsettled over Sweden, northern and central Russia, the Baltic, and eastern Germany, with rain at Hernösand, Hangö, Helsingfors, and Warsaw. Slight rain falling later in several parts of central and southern Europe, and larger amounts at some of the Russian and Scandinavian stations.

Temperature highest, 81° at Constantinople, 74° at Brindisi, 69° at Trieste, Palermo, and Sfax, and 68° at Barcelona, Lesina, Nicolaieff, and Tunis, above 60° over southern Europe generally. Lowest, 43° at Aberdeen, 44° at Sumburgh Head and Nairn, and 45° at Hernösand, Christiansund, and Swinemunde. Daily maxima below 60° in most parts of the United Kingdom, but thermometer rising above 70° in Spain, Italy, Algeria, and the south of France. Ground frost occurring at some of the English stations at night.

Wind strong from the North-Westward on the eastern shores of the North Sea and light or moderate from the same quarter in most parts of western and southern Europe, but light from the South-Eastward in the extreme south-west of our Islands. Strong to a gale from West over north Germany and the Baltic, light from South-West in Poland and from north-east in Lapland and the north of Sweden. Wind moderating later over Denmark and the Baltic and backing to the Westward in the north of Scotland.

Barometer highest, 30·2 ins. and upwards, in a long and narrow ridge extending northwards from Morocco and Portugal to the west of France and thence in a north-westerly direction to the west of Ireland. Lowest, 29·3 ins. and less, in a large depression lying over the Gulfs of Bothnia and Finland and the adjacent countries; shallow disturbance apparently lying to the south-westward of our Islands. Depression over northern Europe subsequently travelling north-eastwards, but another system beginning to approach the north of Scotland from the westward.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

This week has brought with it a complete break up of the period of warm South-Easterly winds and thundery weather to which reference was made in last week's Report. The distribution of pressure has undergone considerable changes. Depressions of no great intensity have prevailed over Continental Europe, while the high-pressure system observed moved from a position to the northward of our Islands, down our western coasts to the Bay of Biscay. In this latter position it lay at 8 a.m. on the 29th, when it began to spread eastwards over southern Europe and northwards over the west and south-west of our Islands. The wind has varied greatly on the Continent, but backed round through North to North-West over the British Isles and their neighbourhood. Temperature has consequently been low for the time of year, and, while little rain has fallen over the British Isles, the falls at the Continental stations have been more frequent, but not heavy.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January and February,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 23.] *Third Series.* WEEK ENDING SATURDAY, 7TH JUNE, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1836–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 134.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	62	40	55·8	45·4	50·2	0 (average)	57	+ 7	0	− 2	563	+143	438	− 72
	1. SCOTLAND, EAST	69	35	61·1	46·0	53·0	1 above.	77	+ 7	0	− 2	661	+ 72	485	− 58
	2. ENGLAND, N.E.	70	39	62·8	48·4	55·1	2 above.	92	+18	0	− 1	658	+ 48	389	− 93
	3. ENGLAND, EAST	72	35	63·5	48·7	55·6	0 (average)	95	+ 8	0	− 1	794	+ 14	468	− 39
	4. MIDLAND COUNTIES	70	30	63·4	47·3	54·8	1 below.	90	+ 3	0	− 1	822	+ 14	478	− 26
	5. ENGLAND, SOUTH	69	33	62·3	45·7	55·0	1 below.	91	− 2	0	0	896	+ 26	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	64	36	58·2	46·5	52·0	1 below.	70	− 2	0	− 1	729	+ 78	325	− 73
	7. ENGLAND, N.W.	67	36	60·2	48·3	53·9	1 below.	83	+ 5	0	− 1	753	+ 70	302	− 81
	8. ENGLAND, S.W.	68	31	60·2	48·6	54·0	2 below.	84	0	0	0	887	+ 23	245	+ 12
	9. IRELAND, NORTH	66	33	58·7	46·8	52·3	2 below.	72	− 1	0	0	762	+ 31	295	− 55
	10. IRELAND, SOUTH	72	39	61·4	49·8	55.2	0 (average)	92	+11	0	0	924	+ 31	225	− 14
	— CHANNEL ISLANDS	65	39	59·2	51·6	55·2	1 below.	92	+ 4	0	0	1057	+109	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 134.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	14	5 more.	108	+ 7	21·2	− 0·6	23	19	512	−79	27	− 3
	1. SCOTLAND, EAST	5	6	1 more.	91	+11	12·1	− 0·5	36	30	569	−87	30	− 4
	2. ENGLAND, N.E.	3	3	2 less.	77	− 3	8·4	− 2·1	28	24	538	−42	28	− 2
	3. ENGLAND, EAST	3	4	1 less.	81	− 1	8·8	− 0·9	29	25	688	−22	36	− 1
	4. MIDLAND COUNTIES	2	1	4 less.	74	− 5	8·7	− 2·7	32	29	606	−15	32	0
	5. ENGLAND, SOUTH	3	5	0 (average).	77	0	10·5	− 0·8	30	27	651	− 2	34	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	5	17	5 more.	95	+ 5	20·7	− 1·7	38	33	619	+ 6	32	0
	7. ENGLAND, N.W.	4	5	0 (average).	88	+ 6	12·6	− 0·4	32	28	578	−41	30	− 2
	8. ENGLAND, S.W.	5	5	2 less.	91	+ 4	15·2	− 2·6	26	23	675	−36	35	− 2
	9. IRELAND, NORTH	6	13	7 more.	101	+ 3	13·3	− 1·0	25	22	619	− 6	32	0
	10. IRELAND, SOUTH	5	12	6 more.	103	+ 9	19·4	+ 2·3	27	24	659	−33	34	− 2
	— CHANNEL ISLANDS	4	6	2 more.	97	+ 3	14·1	+ 0·4	47	42	800	−43	42	− 1

General Remarks.

Weather has been generally changeable and unsettled, with somewhat frequent rain over all the more western and northern parts of the Kingdom, while overcast skies and rain alternating with brief intervals of sunshine have prevailed in the south-eastern districts.

Temperature has not differed materially from the mean; in "Scotland E." and "England N.E." an excess of 1° or 2° is shown, while in most other districts there has been a similarly small deficit. During the early morning of the 1st the minima were very low for the time of year; at Cirencester the sheltered thermometer fell to 30°, while in most other localities (except on the coast) readings between 33° and 37° were recorded. At Llandovery a minimum of 31° occurred at about 3 a.m. on the 7th. The highest of the maxima were recorded on rather irregular dates, and varied from 72° in "England E." and "Ireland S." to 65° in the "Channel Islands," 64° in "Scotland W.," and 62° in "Scotland N."

Rainfall has been more than the mean in Ireland, Scotland, and the "Channel Islands," and just equal to it in "England S." and "England N.W."; in all the other English districts it has been less than the normal amount.

Bright Sunshine has been less prevalent (except in the "Channel Islands") than for some weeks past. The percentage of the possible amount has varied from 19 to 33 in Scotland, from 22 to 24 in Ireland, and from 23 to 29 over England; in the "Channel Islands" the percentage was 42.

Barometer and Wind.—At the commencement of the week the distribution of pressure was anti-cyclonic and the winds light or moderate from the Westward. By the 3rd, however, the barometer had fallen briskly in the west, and the wind in Ireland had increased considerably from the Southward. From this date depressions moving north-eastwards began to skirt, or pass over, our western coasts, with moderate winds from the South-Westward or Southward. On the 6th a "V"-shaped system passed eastwards directly over the Kingdom, and as it disappeared a ridge of high-pressure and North-Westerly winds spread over our Islands from the westward. At the close of the week low-pressure systems were again beginning to approach the Irish coasts.

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III.—DATA from which the SUMMARY on page 133 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0 SCOTLAND, N.	Sumburgh Head ℌ	58	40	53·1	44·0	48·2	—1·3	43	0	6	0·85	+0·41	*	*
	Stornoway ℌ	58	40	55·3	45·1	49·8	—0·7	55	0	6	1·21	+0·57	28·3	23
	Wick ℌ	62	40	58·0	44·7	50·9	+0·5	62	0	5	1·02	+0·62	*	*
	Lairg ℌ S	61	41	56·1	45·6	50·5	+1·2	60	0	6	1·05	+0·48	*	*
	Glencarron S	58	42	54·7	46·4	50·3	—0·1	58	0	7	3·04†	+1·82	?	?
	Fort Augustus S	59	40	57·4	46·8	51·7	—1·2	68	0	6	1·16†	?	18·1	15
1. SCOTLAND, E.	Nairn ℌ	66	41	61·1	47·3	53·7	+1·0	82	0	5	0·39	—0·02	*	*
	Aberdeen ℌ	69	40	61·9	46·3	53·6	+1·9	81	0	6	0·58	+0·16	47·6	39
	Braemar ℌ S	63	36	57·4	44·1	50·3	+0·4	58	0	5	0·66	+0·11	26·0‡	21‡
	Ochtertyre S	66	35	63·0	44·9	53·3	+0·5	79	0	5	1·09	+0·46	*	*
	Leith ℌ	67	40	63·1	47·3	54·7	+1·1	89	0	4	0·39	—0·02	*	*
	Marchmont S	66	39	60·1	46·1	52·6	+0·6	74	0	4	0·43	—0·17	34·8	29
2 ENGLAND, N.E.	Alnwick Castle ℌ	65	40	60·9	49·0	54·5	+2·0	88	0	4	0·43	—0·05	*	*
	Durham ℌ	68	39	64·2	46·9	55·0	+1·4	91	0	3	0·20	—0·28	33·5	28
	Shields ℌ	66	40	62·0	47·0	54·0	+1·5	84	0	3	0·41	+0·01	*	*
	Scarborough ℌ	70	40	63·1	48·1	55·1	+1·7	92	0	4	0·23	—0·21	25·0‡	22‡
	York ℌ	67	40	64·7	49·1	56·4	+1·3	101	0	3	0·35	—0·13	26·2	23
	Spurn Head ℌ	67	45	61·6	50·4	55·6	+1·7	95	0	2	0·10	?	*	*
3. ENGLAND, E.	Hillington ℌ	66	35	63·7	48·2	55·4	+1·1	94	0	4	0·34	—0·14	28·1	24
	Yarmouth ℌ	65	42	61·7	50·1	55·5	+0·8	95	0	4	0·54	+0·09	*	*
	Geldeston ℌ	69	40	63·5	49·4	56·0	+0·3	98	0	3	0·55	+0·15	26·7	23
	Cambridge ℌ	72	37	66·4	48·7	56·9	+1·4	104	0	3	0·19	—0·31	32·2	28
	Rothamsted ℌ	65	37	62·3	46·7	54·0	—2·5	84	0	3	0·30	—0·21	*	*
	Ingatestone ℌ	67	37	63·3	49·3	55·8	—0·8	97	0	3	0·30	—0·15	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ℌ	70	40	65·0	48·7	56·3	+0·9	100	0	1	0·08	—0·45	32·8‡	29‡
	Loughborough ℌ	70	40	66·1	49·4	57·2	+0·8	106	0	3	0·12	—0·40	31·9‡	28‡
	Cheadle ℌ	67	39	61·0	46·0	53·1	—1·5	78	0	3	0·29	—0·34	*	*
	Churchstoke ℌ	70	37	61·8	45·5	53·1	—1·5	78	0	1	0·04	—0·45	31·7	28
	Hereford ℌ	69	37	64·5	47·2	55·3	—0·7	93	0	2	0·02	—0·47	*	*
	Cirencester ℌ	66	30	62·3	45·4	53·3	—2·3	79	0	2	0·09	—0·43	33·3	29
	Oxford ℌ	65	37	62·9	48·7	55·3	—0·9	93	0	3	0·08	—0·40	32·5	29
5. ENGLAND, S.	London ℌ	68	37	64·6	49·6	56·6	—1·0	102	0	2	0·34	—0·11	28·1‡	25‡
	Strathfield Turgiss ℌ	68	33	63·9	47·2	55·0	—0·2	91	0	4	0·25	—0·17	*	*
	Dungeness ℌ	62	37	60·7	49·1	54·5	—1·6	88	0	2	0·23	—0·17	31·8‡	28‡
	Hastings (St. Leonards)	63	42	60·4	49·1	54·4	—1·9	87	0	2	0·30	—0·10	30·4	27
	Southampton ℌ	69	39	64·8	48·8	56·2	—0·2	99	0	3	0·56	+0·11	36·0	32
	Hurst Castle ℌ	66	41	61·3	49·9	55·2	—1·0	92	0	3	1·26	+0·84	*	*
	Stowell ℌ	63	37	60·1	47·1	53·2	—1·2	78	0	4	0·18	?	24·4‡	22‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	61	42	58·1	46·5	51·9	0·0	69	0	6	3·39†	+2·33	*	*
	Glasgow ℌ	63	39	58·7	46·9	52·4	—0·5	73	0	5	0·98	+0·38	30·1	25
	Ardrossan ℌ	60	36	56·7	46·9	51·5	—1·9	67	0	4	0·93	+0·40	*	*
	Glenlee S	64	37	59·1	46·1	52·2	—0·5	71	0	6	1·02	+1·23	*	*
	Douglas (Isle of Man)	62	39	58·6	46·1	51·9	—1·3	69	0	6	1·23	+0·75	45·9	40
7. ENGLAND, N.W.	Newton Reigny ℌ	65	36	60·6	45·5	52·5	—0·4	74	0	5	0·35	—0·13	35·6	30
	Stonyhurst ℌ	63	39	58·9	46·0	52·0	—2·4	70	0	6	1·22	+0·50	27·3	24
	Blackpool ℌ	63	47	59·9	50·4	54·8	—0·9	90	0	5	0·40	—0·09	37·2	32
	Manchester ℌ	67	40	61·4	46·6	53·5	—2·0	81	0	4	0·52	—0·12	*	*
	Liverpool Obsy. (Bidston)	66	44	61·0	50·1	55·2	—0·4	92	0	4	0·40	—0·04	*	*
	Llandudno ℌ	64	46	60·2	49·5	54·5	—1·4	88	0	1	0·09	—0·33	29·5	26
	Holyhead ℌ	62	46	59·6	50·0	54·5	—0·2	88	0	5	0·42	—0·03	*	*
8. ENGLAND, S.W.	Llandovery ℌ	67	31	62·4	46·0	53·6	—1·6	81	0	6	0·60	—0·07	*	*
	Pembroke ℌ	58	45	55·9	50·3	52·9	—2·2	76	0	6	0·55	+0·07	27·6	24
	Arlington (N. Devon)	66	38	60·0	46·9	53·0	—2·2	77	0	6	0·45	—0·37	*	*
	Cullompton ℌ	67	35	63·0	46·9	54·5	—1·6	88	0	4	0·20	—0·34	29·9	26
	Falmouth ℌ	63	43	60·5	50·0	54·9	—0·8	90	0	4	0·46	—0·19	21·4	19
	Plymouth ℌ	68	44	63·1	50·8	56·5	+0·1	102	0	3	0·50	+0·02	23·4	21
	Prawle Point ℌ	58	43	56·7	49·3	52·7	—2·0	75	0	3	0·40	?	*	*
9. IRELAND, N.	Malin Head ℌ	60	45	55·3	48·1	51·5	—1·2	67	0	5	1·20	?	*	*
	Londonderry ℌ	64	41	59·8	46·9	52·9	—1·1	76	0	6	1·30	+0·72	*	*
	Mullaghmore ℌ	62	42	57·1	47·6	52·0	—3·1	70	0	6	1·92	+1·24	*	*
	Belmullet ℌ	57	42	56·3	48·1	51·9	—1·7	69	0	6	2·43	?	*	*
	Markree Castle ℌ	64	33	59·0	44·6	51·3	—3·5	65	0	6	1·09	+0·50	22·7	20
	Brookeborough ℌ	62	33	58·9	44·4	51·2	—3·9	64	0	5	1·27	?	*	*
	Armagh ℌ	64	38	60·8	45·4	52·6	—2·1	74	0	6	0·69	+0·21	26·2	23
	Donaghadee ℌ	66	44	61·0	50·3	55·3	+1·3	93	0	5	0·53	+0·05	*	*
	Edgeworthstown ℌ	66	37	60·3	45·9	52·6	—0·8	74	0	6	1·05	+0·41	*	*
10. IRELAND, S.	Dublin ℌ	72	43	63·5	50·8	56·7	+1·8	103	0	3	0·31	—0·13	38·1	33
	Parsonstown ℌ	67	41	62·1	48·7	54·9	—0·2	90	0	5	0·60	+0·06	27·1	24
	Kilkenny ℌ	68	40	61·9	48·7	54·8	0·0	90	0	5	0·84	+0·34	*	*
	Waterford ℌ	66	39	62·9	49·2	55·6	—0·6	95	0	4	1·72	+1·17	*	*
	Roche's Point ℌ	64	48	60·1	50·4	54·9	—1·5	90	0	4	1·45	+0·71	*	*
	Valencia ℌ	61	49	58·3	51·1	54·5	—0·2	88	0	6	2·27	+1·52	16·8	15
	Killarney ℌ	66	44	60·7	49·6	54·8	+0·3	90	0	4	1·31	?	*	*
	Foynes ℌ	66	45	61·6	50·1	55·5	+0·8	95	0	6	1·05	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ℌ	60	51	57·6	52·3	54·8	—0·9	90	0	4	0·32	—0·10	*	*
	Jersey ℌ	65	39	60·7	50·9	55·5	—1·2	95	0	4	0·90	+0·49	46·5	42

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

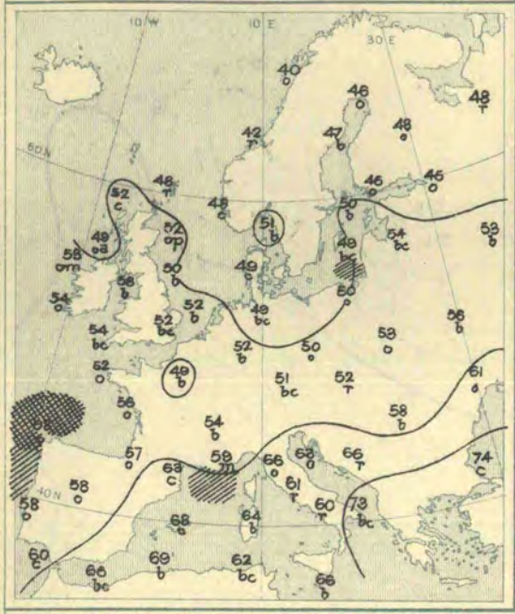
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 1st June.

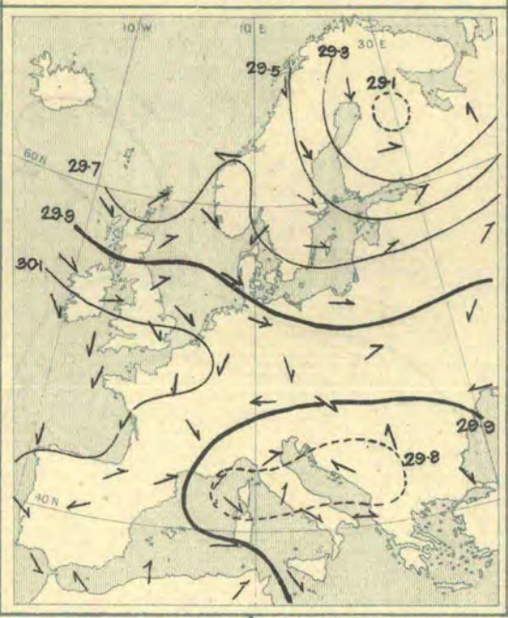
Temperature and Weather. 8 a.m.

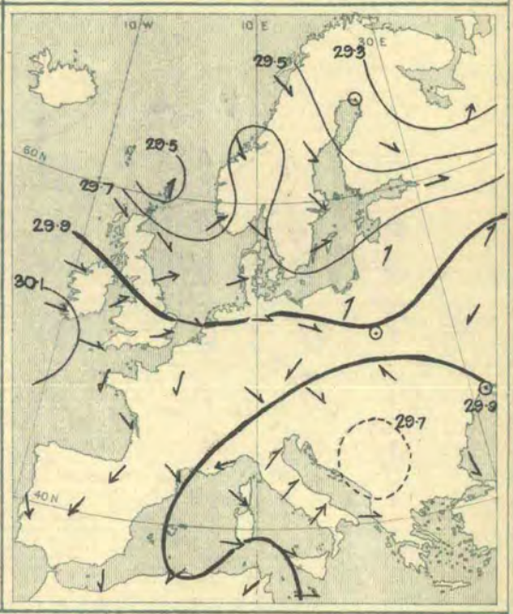


Weather fine over England, as well as in Sweden, Denmark, Germany, central Russia, and Algeria; cloudy or overcast elsewhere, with showers over the northern parts of the United Kingdom and steady rain at Turin, Vienna, Rome, Naples, and Odessa. Cloudy, showery weather subsequently setting in over the greater part of the United Kingdom, and rain falling at several of the Spanish, Italian, and Austrian stations.

Temperature highest, 74° at Constantinople, 73° at Brindisi, 69° at Algiers, 68° at Palma, and 67° at Barcelona; above 60° over the whole of Italy, south-eastern Europe, and the Mediterranean. Lowest, 40° at Bodö, 42° at Christiansund, 45° at Helsingfors and St. Petersburg, and 46° at Haparanda, Hangö, and Breslau. Thermometer rising during day to 65° or a little more over central England, but daily maxima below 60° at several of our western and northern stations. Highest Continental readings, 84° at Brindisi, 82° at Algiers, and 81° at Biskra and Laghouat.

Barometer and Wind. 8 a.m. 6 p.m.



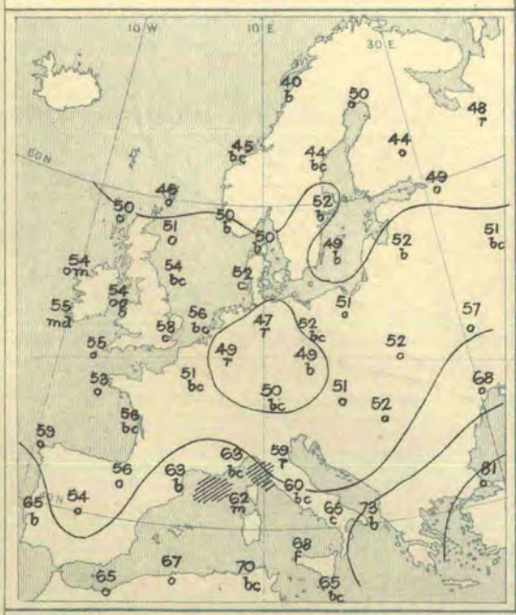


Wind light or moderate from the South-Westward, over the greater part of the United Kingdom, as well as over central Russia, the Baltic Provinces, and the extreme south of France. Moderate to strong from the North-Westward over the south-east of England and the north-west of Scotland, and also over Scandinavia, Denmark, and east Germany. Light from North or North-East over the greater part of France, and from West or North-West over the central parts of the Mediterranean, variable over Spain and eastern Europe. Subsequently veering to the North-Westward in Ireland and Scotland, but no great change observed elsewhere.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying over the Channel, the Bay of Biscay, the north of France, and the south of our Islands. Lowest, 29·1 ins. and less, in a depression over eastern Lapland, 29·7 ins. and less in another system lying off the north of Scotland, 29·8 ins. and less in an elongated area extending from Corsica and the south of France to Servia. Barometer falling over western Europe during day as the depression off the north of Scotland moved eastwards. Disturbance over Lapland travelling away in a north-easterly direction.

Monday, 2nd June.

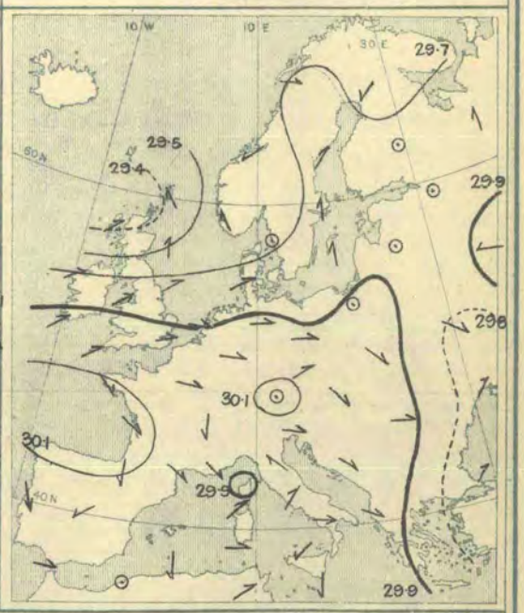
Temperature and Weather. 8 a.m.



Weather fine in the east and south-east of Great Britain, as well as over Scandinavia, Denmark, central Russia, and the greater part of Germany, France, Italy, and Algeria. Dull elsewhere, with rain in the west of Ireland, and also at Archangel, Uleaborg, and Cracow. Rain falling later at nearly all our western and northern stations, heavily in the west of Ireland. Thunderstorms occurring in some parts of Algeria.

Temperature highest, 81° at Constantinople, 73° at Brindisi, 70° at La Calle, and 68° at Odessa, Palermo, and Sfax; above 60° over the greater part of southern and eastern Europe. Lowest, 40° at Bodö, 43° at Uleaborg, 44° at Hernösand and Kuopio, 45° at Christiansund and Hangö, and 46° at Faerder, Breslau, and Sumburgh Head. Daily maxima below 60° at several of our western and northern stations, but thermometer exceeding 65° in some parts of central England, and rising above 70° over the greater part of southern Europe. Highest readings of all, 88° at Laghouat, 82° at Biskra, and 81° at Sfax and Palermo.

Barometer and Wind. 8 a.m. 6 p.m.



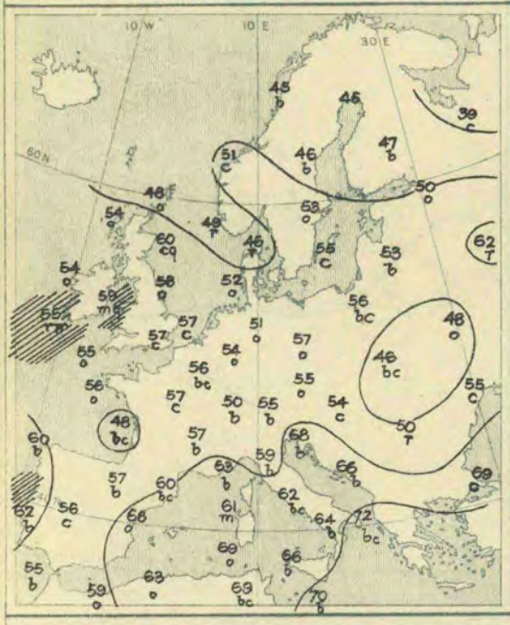
Wind moderate from the South-Westward in the west of Ireland, as well as over Denmark, the Baltic, and northern Russia. Light to fresh from the Westward or North-Westward over the remainder of our Islands, and also in Sweden; light from the South-Eastward in the west of Norway. Light or moderate from the Northward or North-Westward over central Europe, and from the North-Eastward or Eastward over France and Spain; variable in Italy and Algeria. Subsequently backing to the Southward in the east of Scotland and to the South-Westward on all our western coasts.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying over the Bay of Biscay and north of Spain, and also in another system lying over central Russia. Lowest, 29·4 ins. and less, in a depression lying over the White Sea, 29·7 ins. and less to the northward of our Islands, and also in two small disturbances situated one near Fanö and the other over the Skager Rack, 29·8 ins. and less in a large area lying over Turkey and the south of Austria. New depression approaching our extreme northern coasts later, and barometer falling quickly in Scotland.

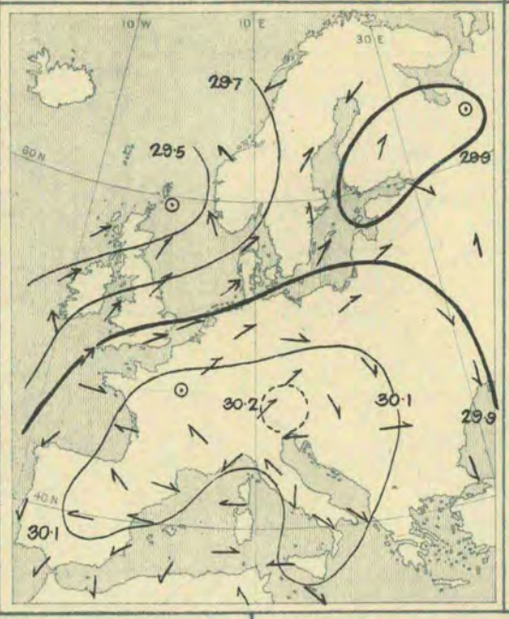
Judd & Cº Lᵗᵈ Lith. 73 & 75. Farringdon Rᵈ & Doctors' Commons.

Tuesday, 3rd June.

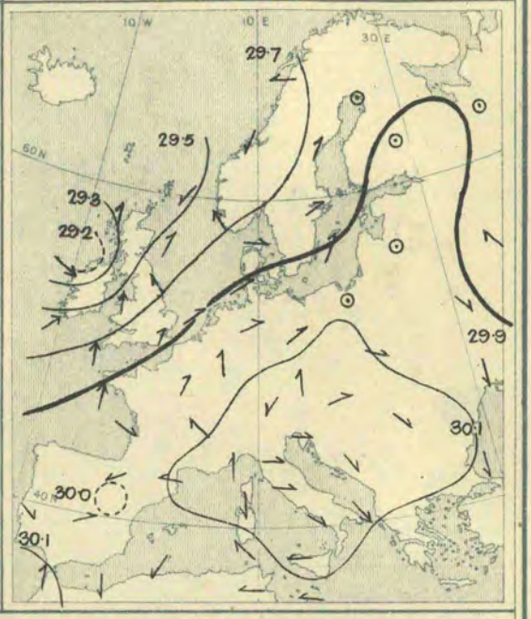
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair in the east of Scotland and the south-east of England, as well as over western Russia, the northern parts of Scandinavia, and the greater part of France, Spain, and the Netherlands. Dull elsewhere, with rain in the west of Ireland, the south of Norway, and the north of Denmark, and also at Leith, Moscow, Hermanstadt, and Nemours. Rain falling later in all the more western and northern parts of the United Kingdom, as well as in Algeria and the north-west of France.

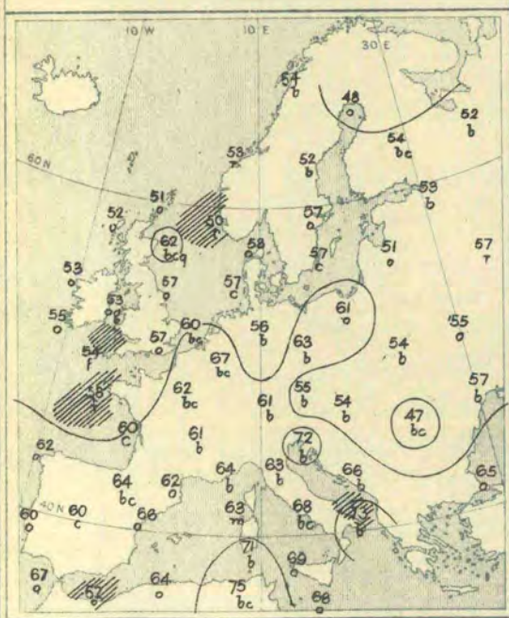
Temperature highest, 72° at Brindisi, 70° at Malta, 69° at Cagliari, La Calle, and Constantinople, and 68° at Kharkov, Trieste, and Sfax; as high as 60° at Aberdeen and Spurn Head, and 59° at Nairn. Lowest, 39° at Archangel, 42° at Uleaborg, 45° at Bodö and Haparanda, 46° at Hernösand, Lemberg, and 47° at Kuopio. Daily maxima very little above 60° in any part of the United Kingdom, but thermometer exceeding 70° at many of the French stations, as well as over the whole of southern Europe. Highest maxima 90° at Biskra and 86° at Cape Béarn.

Wind strong from the Southward in the west and south of Ireland, light to fresh from the South-Westward in all other parts of our Islands, as well as over Finland, Sweden, the Baltic, Denmark, and the Netherlands. Light from between East and North over the greater part of France and Spain, as well as in northern Italy; North-Westerly over Austria and the southern parts of Russia and Italy. Subsequently increasing to a strong gale from the Southward in the west of Ireland and to a moderate gale on other parts of our western coasts.

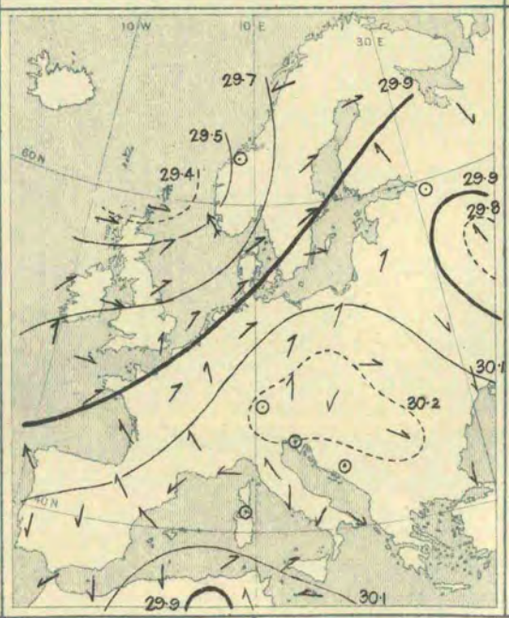
Barometer highest, 30·1 ins. and upwards, in a large anti-cyclone lying over France, Italy, south Germany, the west of Austria, and the greater part of Spain. Lowest, 29·5 ins. and less, in the north of Scotland, 29·8 ins. and less in a large shallow area lying over the southern parts of Russia. Large and rather deep depression, with minimum readings below 29·2 ins., subsequently advancing from the Atlantic to our extreme north-west coasts, and barometer falling briskly at all our western stations. No important change occurring on the Continent.

Wednesday, 4th June.

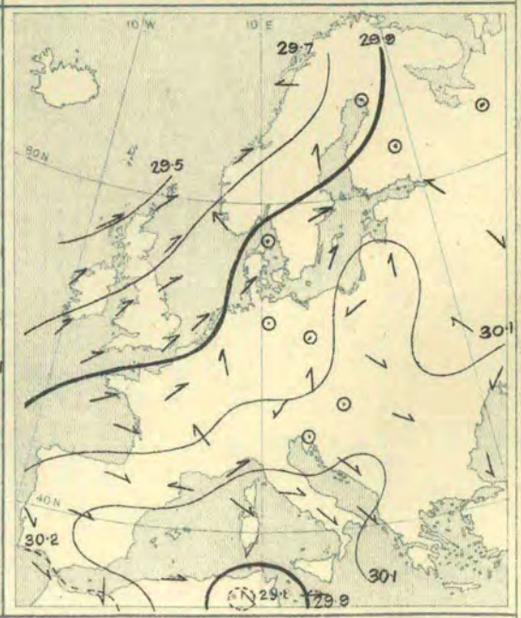
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy or overcast over the greater part of the United Kingdom, as well as over Scandinavia, the Baltic, central Russia, and some parts of Spain and Algeria; fog reported at the mouths of the Bristol and English Channels, and rain over the central parts of the Channel and the north-west of France. Rain also falling in the west of Norway and at Moscow. Weather fine over the greater part of France, Italy, central Europe, and northern Russia. Rain occurring later at nearly all the English and Irish stations, as well as in the north of France, the largest amounts being 1·0 in. at Hurst Castle and 0·5 in. at Mullaghmore and Boulogne.

Temperature highest, 75° at La Calle, 73° at Brindisi, 72° at Trieste, and 71° at Cagliari; above 60° over nearly the whole of southern Europe, and also in many parts of Germany, the Netherlands, and France. Lowest, 47° at Hermanstadt, 48° at Haparanda and Uleaborg, 50° at Hangö, Skudesnaes, and Faerder, and 51° at Helsingfors and Sumburgh Head. Daily maxima not exceeding 60° in the south and south-west of our Islands, but thermometer rising above 65° at several of the more western and northern stations; above 70° in France and above 80° in many parts of southern Europe.

Wind moderate from the Southward or South-Westward over Ireland, England, the Netherlands, Denmark, Sweden, Germany, and the north of France; Westerly in the north of Scotland, South-Easterly in the west of Norway, with a gale at Skudesnaes. Light from South-East or East over the south of France and the northern parts of Spain and Italy, as well as in Tunis; Northerly in Algeria and the south of Spain. South-Westerly winds subsequently becoming general over the whole of western Europe.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over Austria and south Germany, 30·1 ins. and upwards in nearly all parts of central and southern Europe. Lowest, 29·4 ins. and less, in a depression lying off the north of Scotland, 29·8 ins. and less in another disturbance over central Russia. Shallow secondary system passing across England during day, but barometer rising in most parts of western Europe. Russian disturbances moving away to the eastward.

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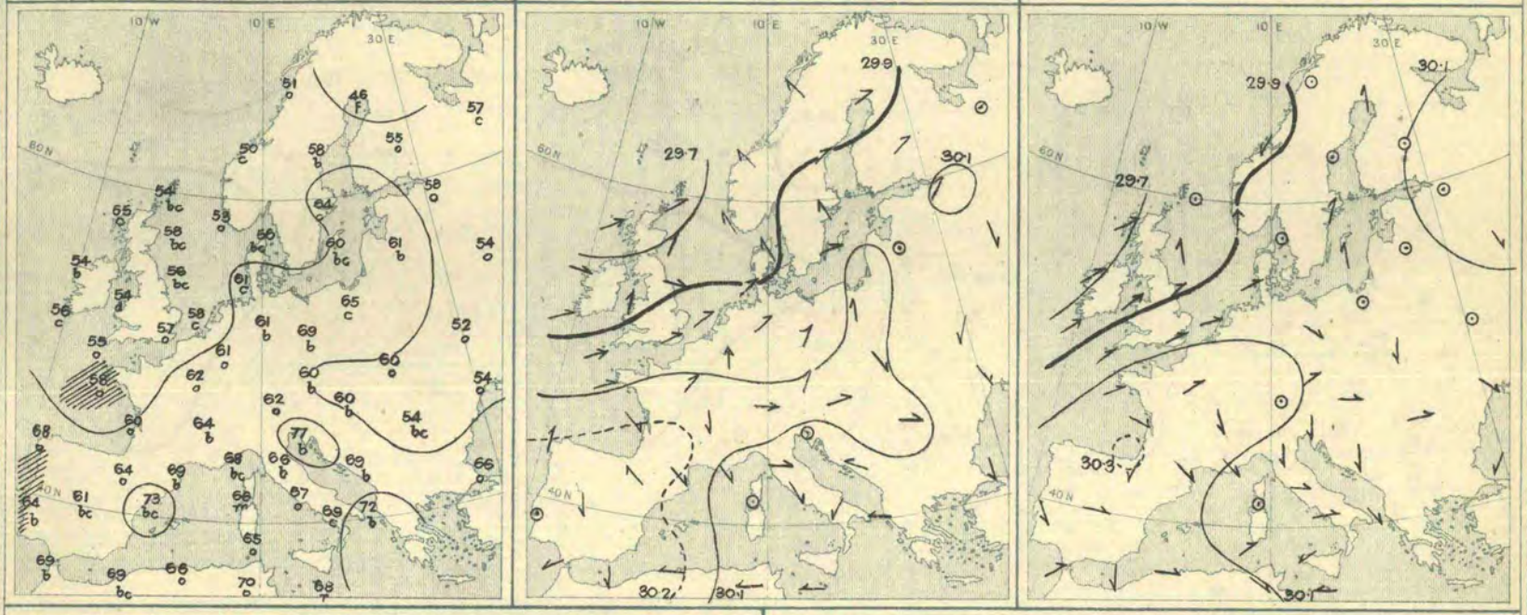
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 5th June.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather fine in the eastern parts of Great Britain and the west and south of Ireland, as well as in Sweden, Denmark, and the greater part of central and southern Europe. Dull elsewhere, with fog at some of our own southern stations, as well as at Haparanda and Helsingfors, and rain at Ulcaborg, Malin Head, Limoges, and Malta. Heavy rain falling later in the west of our Islands (0·8 in. at Valencia Island, 0·7 in. at Belmullet, and 0·5 in. at Mullaghmore and Roche's Point) and showers in most other parts of the Kingdom, as well as in the north of France.

Temperature highest, 77° at Trieste, 73° at Barcelona, 72° at Leghorn and Brindisi, and 70° at La Calle; above 60° over central and southern Europe generally and just reaching that point at Spurn Head. Lowest, 46° at Haparanda, 50° at Malin Head, 51° at Bodö and Faerder, and 52° at Hangö, Kiev, and Mullaghmore. Subsequently rising to between 65° and 70° in many parts of the United Kingdom, and to 80° or more at some of the French, German, Spanish, and Italian stations, the highest readings of all being 88° at Cape Béarn and 86° at Berlin and Madrid.

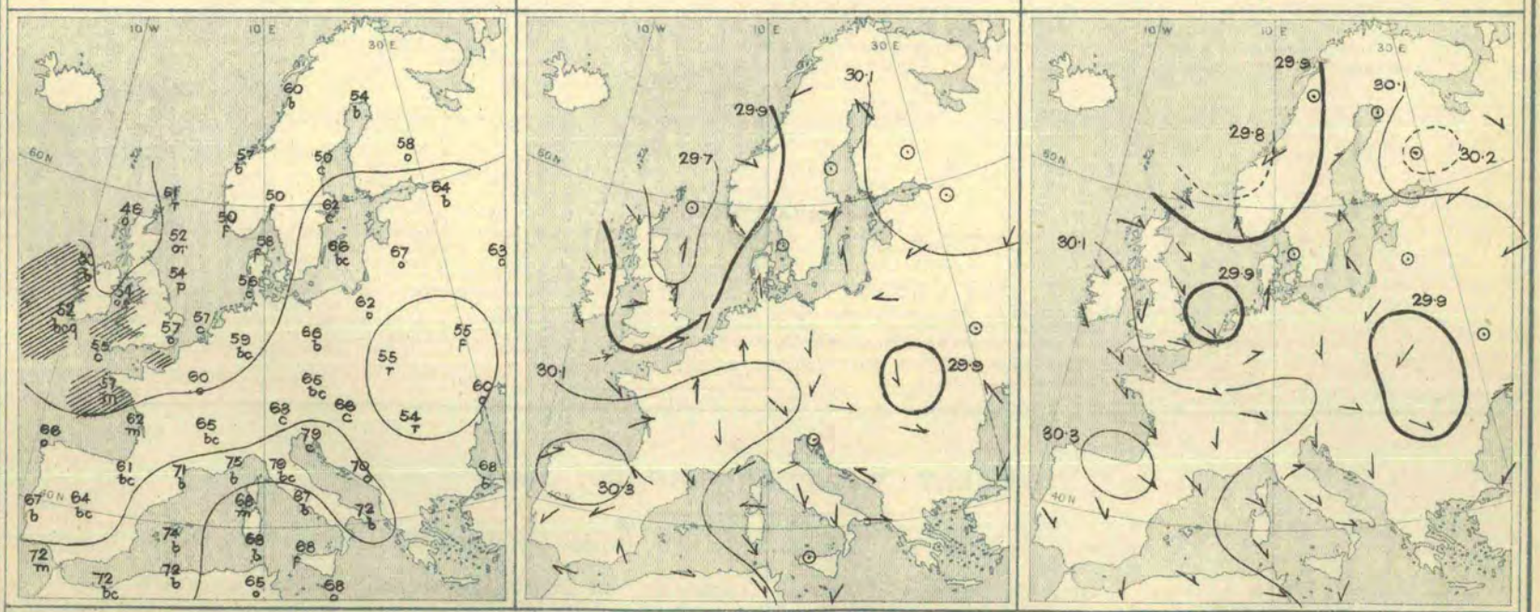
Wind light or moderate from the South-Westward over the greater part of our Islands, as well as in Finland, Denmark, Germany, and the north of France. Light from South-East in Norway. Rather variable over the southern and south-eastern countries of Europe, but chiefly Northerly; variable in Algeria. Subsequently backing to the Southward in the west of Ireland, and increasing to a strong breeze or moderate gale. No important change occurring elsewhere.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over Spain and the south-western parts of France, 30·1 ins. and upwards over Austria and eastern Germany. Lowest, 29·7 ins. and less, in a shallow depression lying to the northward of Scotland, 30·0 ins. and less over the south of Russia and the central parts of the Mediterranean. New depression beginning to approach the west of Ireland in evening and barometer falling at many of our western stations. Spanish high-pressure system spreading north-eastwards to western Germany.

Friday, 6th June.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather fine in the extreme west of our Islands, and also over the greater part of northern, central, and southern Europe. Dull elsewhere, with fog at some of the Channel stations and in the south of Norway, and rain over Scotland and the north of England, as well as at Lemberg and Hermanstadt. Fine weather setting in later in nearly all parts of the United Kingdom, but thunderstorm occurring at Yarmouth in afternoon and rain falling at several of the German stations.

Temperature highest, 79° at Trieste, 75° at Nice, 74° at Palma, and 73° at Leghorn and Toulon; above 70° over the Adriatic and Mediterranean generally, and above 65° at some of the Baltic stations. Lowest, 46° at Stornoway, 48° at Malin Head, 49° at Donaghadee and Parsonstown, and 50° at Hernösand, Faerder, Skudesnaes, Malin Head, and Belmullet. Daily maxima below 60° in the west and extreme north of our Islands, but thermometer rising above 70° in some parts of eastern England, and above 80° in many parts of southern Europe. Highest reading of all 88° at Madrid and Florence.

Wind strong from the North-Westward in Ireland, and moderate from the same quarter in the north of Scotland, fresh or strong from the South-Westward over the Channel, light or moderate from the Southward over the eastern parts of Great Britain, and also in Scandinavia and Denmark. Light from the North-Westward in south Germany, the east and south of France, Italy, and Tunis; North-Easterly in Spain, variable over Russia and Austria. Subsequently veering to the North-Westward in nearly all parts of Great Britain.

Barometer highest, 30·3 ins. and upwards, over the northern parts of Iberian Peninsula, 30·1 ins. and upwards over the northern half of Russia. Lowest, 29·7 ins. and less, in a "V"-shaped depression extending over Scotland from the northward, 29·9 ins. and less in a shallow system lying over eastern Austria. Depression over Scotland subsequently travelling away north-eastward and barometer rising briskly in all the more western and northern parts of the United Kingdom. Austrian disturbance increasing in size.

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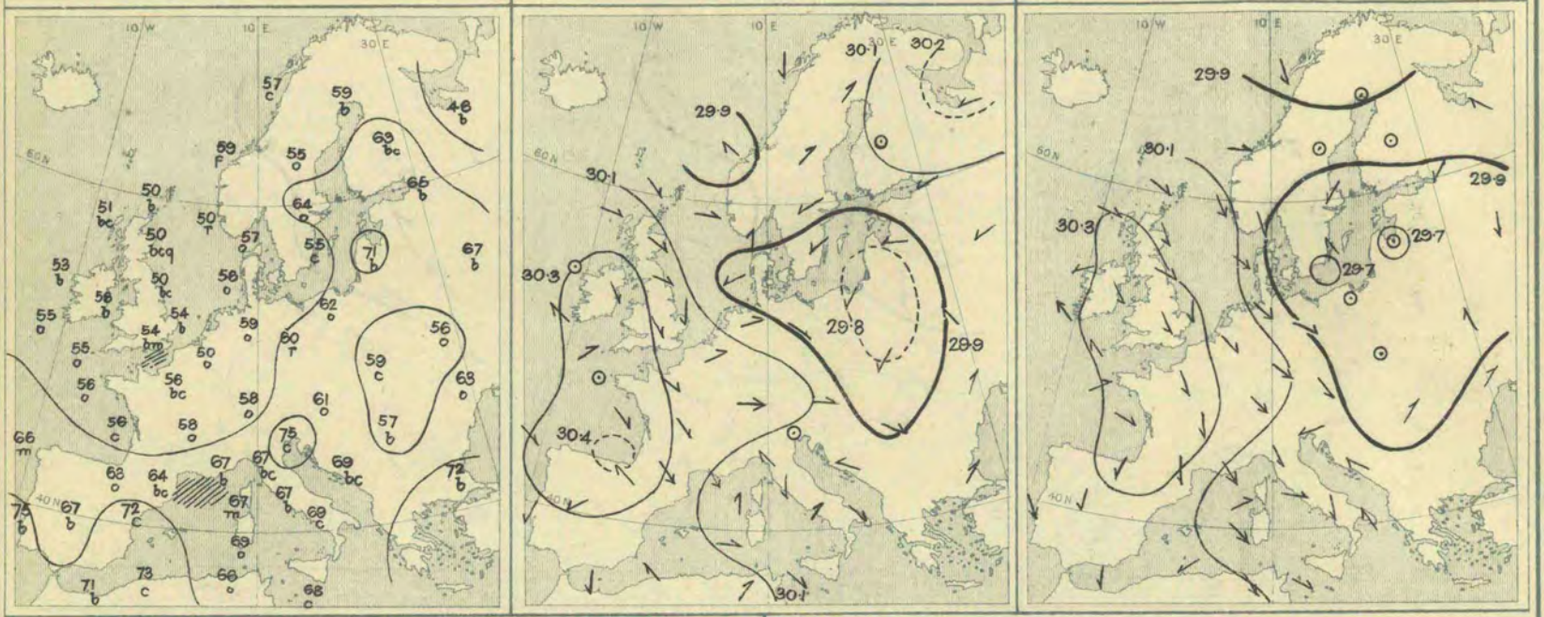
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 7th June.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.



Weather fine over the greater part of western and southern Europe, as well as in Algeria and the central and northern parts of Russia. Dull in Scandinavia, Denmark, the Netherlands, Germany, Austria, and the south of Russia, with fog at Christiansund and rain at Memel and Berlin. Dull weather setting in later in the west of Ireland, and also over the northern parts of Italy and the Adriatic, with rain at Trieste.

Temperature highest, 75° at Trieste and Lisbon, 73° at Brindisi and Algiers, and 72° at Barcelona and Constantinople; above 65° over southern Europe generally, and also over the greater part of Russia (thermometer at Riga as high as 71°). Lowest, 46° at Archangel, 50° at Sumburgh Head, Nairn, and Ardrossan, and 51° at Stornoway and Malin Head. Daily maxima below 60° at many of our western and northern stations, but thermometer exceeding 65° in some parts of England and reaching 80° or more in many parts of southern Europe. Highest readings of all, 91° at Lisbon and Madrid and 88° at Biskra.

Wind light to moderate from the North-Westward or Northward over the greater part of western Europe, but Easterly in the west and south of Ireland and Southerly in the south-west of England. Westerly in Austria and Germany, Easterly over Russia, North-Easterly at the Baltic stations, variable in Italy and Algeria, and also in Norway. South-Easterly breeze subsequently setting in over the whole of Ireland and freshening in the extreme south-west.

Barometer highest, 30·3 ins. and upwards, in a large anti-cyclone covering all the more western parts of our Islands and France, with the Bay of Biscay and the north of Spain; 30·2 ins. and upwards in another area lying over the White Sea. Lowest, 29·8 ins. and less, in a large shallow depression lying over and to the eastward of Poland, 29·9 ins. and less in a smaller system over the west of Norway. Anti-cyclone subsequently moving eastwards. Polish depression becoming somewhat deeper and spreading northwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the beginning of this period barometrical pressure was highest to the south-westward of the British Islands. Well-defined, though comparatively shallow, cyclonic disturbances were moving eastwards from the Atlantic across the northern parts of Scandinavia and Russia, while an irregularly-shaped area of low pressure existed over the Mediterranean. After the 1st the anti-cyclone moved eastwards, and by the morning of the 3rd it embraced the greater part of central and southern Europe. Depressions now began to travel north-eastwards along the western and northern coasts of the United Kingdom, and Southerly or South-Westerly breezes, with showery weather, set in over nearly the whole of western Europe. In the eastern and southern countries, however, the wind was somewhat variable and the weather fine. On the 5th and 6th a large "V"-shaped depression, attended by numerous secondary disturbances, travelled eastward across the United Kingdom, and, as they passed away to Scandinavia and Russia, the eastern portion of the large anti-cyclone gave way, and the weather over central and eastern Europe became less settled. At the close of the week a long ridge of high pressure was moving eastwards across the United Kingdom and France, where the weather had become fine with rising temperatures.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January and February,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 24.] *Third Series.* WEEK ENDING SATURDAY, 14TH JUNE, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

DISTRICTS. (See p. 140.)	Observed during the Week.					Above or below the Mean for the Week.	Accumulated.							
			Averages of				For the Week.				From December 29th, 1889.			
	Highest.	Lowest.	Daily Maxima.	Daily Minima.	Daily Mean.		Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	Above 42°	Difference from Mean.	Below 42°	Difference from Mean
	°	°	°	°	°		Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.														
0. SCOTLAND, NORTH	66	29	57·6	45·0	50·9	1 below.	62	+ 7	0	0	625	+155	438	− 72
1. SCOTLAND, EAST	70	33	59·6	46·8	52·8	1 below.	76	0	0	0	737	+ 72	485	− 58
2. ENGLAND, N.E.	72	36	59·8	48·1	53·5	1 below.	81	− 1	0	0	739	+ 46	389	− 93
3. ENGLAND, EAST	75	36	64·0	47·7	55·3	2 below.	93	− 1	0	0	887	+ 17	468	− 39
4. MIDLAND COUNTIES	74	35	64·4	46·5	54·8	2 below.	90	− 3	0	0	912	+ 11	478	− 26
5. ENGLAND, SOUTH	73	37	63·6	49·9	56·3	1 below.	100	0	0	0	996	+ 27	305	− 68
Principal Grazing, &c., Districts.														
6. SCOTLAND, WEST	69	30	61·2	48·1	54·2	0 (average)	85	+ 5	0	0	814	+ 83	325	− 73
7. ENGLAND, N.W.	72	33	61·9	48·5	54·7	2 below.	89	+ 3	0	0	842	+ 72	302	− 81
8. ENGLAND, S.W.	71	39	62·2	49·9	55·6	1 below.	95	+ 3	0	0	982	+ 25	245	+ 12
9. IRELAND, NORTH	71	44	62·6	49·9	55·8	0 (average)	97	+16	0	0	859	+ 47	295	− 55
10. IRELAND, SOUTH	70	47	63·5	51·4	57·0	1 above.	105	+17	0	0	1023	+ 46	225	− 14
— CHANNEL ISLANDS	66	48	60·2	52·7	56·2	1 below.	99	+ 3	0	0	1156	+111	71	− 22

Rainfall. Bright Sunshine.

DISTRICTS. (See p. 140.)	Rainfall. For the Week.			Rainfall. From December 29th, 1889.				Bright Sunshine. For the Week.		Bright Sunshine. From December 29th, 1889.			
	Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Hours recorded.	Percentage of possible Duration.	Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
		10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.													
0. SCOTLAND, NORTH	4	4	2 less.	112	+ 8	21·6	− 0·9	29	23	541	−88	27	− 3
1. SCOTLAND, EAST	4	7	2 more.	95	+11	12·8	− 0·4	28	23	597	−96	29	− 5
2. ENGLAND, N.E.	4	8	4 more.	81	− 2	9·2	− 1·8	15	13	553	−68	27	− 3
3. ENGLAND, EAST	4	7	2 more.	85	0	9·5	− 0·7	38	33	726	−31	36	− 1
4. MIDLAND COUNTIES	4	5	0 (average).	78	− 5	9·2	− 2·8	25	22	631	−35	31	− 1
5. ENGLAND, SOUTH	4	8	3 more.	81	+ 1	11·3	− 0·4	34	30	685	−16	34	0
Principal Grazing, &c., Districts.													
6. SCOTLAND, WEST	4	13	7 more.	99	+ 6	22·0	− 1·1	24	21	643	−14	32	0
7. ENGLAND, N.W.	3	8	2 more.	91	+ 6	13·4	− 0·2	29	25	607	−58	30	− 2
8. ENGLAND, S.W.	4	9	3 more.	95	+ 4	16·1	− 2·3	42	37	717	−52	35	− 2
9. IRELAND, NORTH	4	5	1 less.	105	+ 3	13·8	− 1·1	37	32	656	− 3	32	0
10. IRELAND, SOUTH	4	6	0 (average).	107	+ 9	20·0	+ 2·3	38	33	697	−37	34	− 1
— CHANNEL ISLANDS	4	10	5 more.	101	+ 3	15·1	+ 1·0	42	38	842	−65	41	− 3

General Remarks.

Weather was dull, unsettled, and showery during the greater part of the period, with occasional thunder and lightning, but towards its close the conditions showed considerable improvement.

Temperature has been slightly above the mean in "Ireland S.," and has just equalled it in "Scotland W." and "Ireland N.;" in all other parts of the Kingdom, however, it has been 1° or 2° below. The highest of the maxima, which were generally recorded on the 10th, varied from 66° in "Scotland N." and the "Channel Islands" to 74° in the "Midland Counties" and 75° in "England E." Towards the end of the period the daily maxima were very low for the time of year, especially in the north. The lowest of the minima were registered in most places on the 8th, when the thermometer fell as low as 29° in "Scotland N." (at Lairg), 30° in "Scotland W." (at Glenlee), and to between 33° and 36° in "Scotland E." and most of the English districts; in "Ireland N." temperature did not fall below 44°, in "Ireland S." 47°, and in the "Channel Islands" 48°.

Rainfall has been less than the mean in "Scotland N." and "Ireland N.," but in nearly all other districts there has been an excess.

Bright Sunshine has been very deficient generally, the percentage of the possible amount of duration having ranged from 21 to 23 in Scotland, from 13 to 37 over England, and from 32 to 33 in Ireland. In the "Channel Islands" the percentage was 38.

Barometer and Wind.—During the earlier part of the week depressions were shown outside our western coasts, while some shallow subsidiaries advanced directly over the Kingdom from the Southward. On the 12th a low-pressure system, with two distinct minima, covered the whole of England, but as this travelled away to the eastward and dispersed, the barometer rose steadily and an anti-cyclone appeared over us from the Atlantic. Moderate breezes from between South-East and South-West prevailed over our Islands until the 11th, after which time moderate or light Northerly winds were general.

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III.—DATA from which the SUMMARY on page 139 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	55	42	53·0	44·6	48·6	—2·1	46	0	2	0·28	—0·20	*	*
	Stornoway	64	35	57·4	45·9	51·3	—0·4	65	0	4	0·20	—0·49	37·7	30
	Wick	61	41	56·9	44·0	50·1	—1·6	57	0	4	0·32	—0·08	*	*
	Lairg	65	29	58·5	44·0	50·8	0·0	62	0	5	0·38	—0·20	*	*
	Glencarron	66	34	60·2	45·5	52·3	+1·2	72	0	5	0·37†	—0·91	?	?
	Fort Augustus	65	34	59·4	46·2	52·3	—2·0	72	0	6	0·55†	?	19·8	16
1. SCOTLAND, E.	Nairn	69	40	59·9	48·4	53·8	0·0	83	0	5	0·31	—0·12	*	*
	Aberdeen	67	37	56·7	47·0	51·6	—2·1	67	0	4	0·36	—0·07	26·3	22
	Braemar	64	33	59·3	42·3	50·2	—1·2	57	0	3	0·42	—0·18	30·3‡	25‡
	Oehtertyre	66	45	63·0	45·3	55·7	+1·3	96	0	3	0·89	+0·13	*	*
	Leith	70	39	60·1	47·6	53·5	—1·3	81	0	4	1·12	+0·69	*	*
	Marchmont	66	37	58·4	46·0	51·8	—1·7	69	0	4	1·28	+0·68	27·5	23
2. ENGLAND, N.E.	Alnwick Castle	65	38	57·4	46·9	51·8	—2·1	69	0	3	1·33	+0·86	*	*
	Durham	71	36	60·7	46·1	52·9	—2·2	76	0	4	0·78	+0·29	18·3	15
	Shields	66	42	57·3	47·7	52·2	—2·1	71	0	4	1·10	+0·69	*	*
	Scarborough	66	42	60·4	48·5	54·0	—0·7	84	0	4	0·56	+0·09	14·2‡	12‡
	York	72	43	63·4	48·7	55·6	—0·8	95	0	4	0·77	+0·22	13·7	12
	Spurn Head	66	47	59·3	50·7	54·7	—0·7	89	0	4	0·47	?	*	*
3. ENGLAND, E.	Hillington	75	36	65·5	46·4	55·3	—1·0	93	0	3	0·81	+0·29	36·1	31
	Yarmouth	68	44	60·4	50·3	55·1	—1·5	92	0	4	0·83	+0·37	*	*
	Geldeston	69	36	63·2	47·9	55·0	—2·0	91	0	4	0·52	+0·11	45·4	39
	Cambridge	74	41	66·6	47·3	56·4	—1·1	101	0	4	0·78	+0·23	32·0	28
	Rothamsted	71	39	64·5	46·6	54·9	—3·5	90	0	4	0·62	+0·10	*	*
	Ingatestone	72	43	63·9	47·8	55·3	—3·2	93	0	4	0·39	—0·11	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	74	37	65·4	47·7	55·9	—1·0	97	0	4	0·41	—0·18	19·3‡	17‡
	Loughborough	73	42	66·1	47·3	56·1	—2·2	99	0	4	0·26	—0·31	22·8‡	20‡
	Cheadle	68	41	61·9	45·8	53·3	—2·8	79	0	3	0·84	+0·12	*	*
	Churchstoke	67	35	61·8	45·6	53·1	—3·2	78	0	4	0·59	+0·08	21·2	18
	Hereford	70	38	65·5	46·8	55·5	—2·1	95	0	3	0·42	—0·09	*	*
	Cirencester	66	36	64·0	44·9	53·8	—3·1	83	0	4	0·93	+0·36	35·2	31
	Oxford	69	40	65·9	47·1	55·9	—2·1	97	0	4	0·27	—0·25	28·4	25
5. ENGLAND, S.	London	73	45	66·0	50·9	58·0	—1·3	112	0	6	1·31	+0·83	23·7‡	21‡
	Strathfield Turgiss	69	37	66·5	46·8	56·0	—0·9	98	0	4	0·47	+0·01	*	*
	Dungeness	68	44	61·7	51·1	56·1	—1·6	99	0	3	0·56	+0·16	36·5‡	32‡
	Hastings (St. Leonards)	67	47	61·8	50·7	55·9	—1·7	97	0	4	0·47	+0·07	45·0	40
	Southampton	69	45	64·2	50·0	56·6	—1·2	102	0	4	0·66	+0·20	37·2	33
	Hurst Castle	66	49	63·0	52·6	57·5	—0·2	109	0	4	0·86	+0·39	*	*
	Stowell	66	43	61·8	47·3	54·1	—2·3	85	0	4	1·12	?	25·5‡	23‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	68	40	63·9	48·2	55·5	+1·8	95	0	4	1·03†	—0·15	*	*
	Glasgow	69	38	61·7	49·0	54·9	+0·5	90	0	4	0·88	+0·24	14·1	12
	Ardrossan	67	39	60·6	49·1	54·5	—0·2	88	0	3	1·10	+0·51	*	*
	Glenlee	68	30	60·5	47·3	53·6	—0·5	81	0	3	1·50†	+0·75	*	*
	Douglas (Isle of Man)	62	36	58·9	47·0	52·6	—2·0	74	0	4	1·78	+1·28	34·0	29
7. ENGLAND, N.W.	Newton Reigny	69	33	55·6	46·2	52·4	—2·3	73	0	4	1·22	+0·72	24·5	21
	Stonyhurst	69	38	62·7	48·1	54·9	—0·8	90	0	3	0·88	+0·10	26·8	23
	Blackpool	72	40	64·0	47·0	54·9	—1·8	90	0	2	0·61	+0·11	36·3	31
	Manchester	69	40	63·2	47·7	54·9	—2·3	90	0	4	1·06	+0·36	*	*
	Liverpool Obsy. (Bidston)	68	44	63·3	49·9	56·1	—0·6	99	0	3	0·92	+0·47	*	*
	Llandudno	66	42	61·3	49·9	55·2	—2·0	92	0	4	0·37	—0·06	29·8	26
	Holyhead	63	46	58·9	50·9	54·6	—1·1	88	0	3	0·39	—0·08	*	*
8. ENGLAND, S.W.	Llandovery	71	39	65·1	46·7	55·3	—1·9	93	0	6	0·94	+0·24	*	*
	Pembroke	62	49	58·0	51·0	54·3	—2·1	83	0	5	0·36	—0·12	46·3	40
	Arlington (N. Devon)	68	43	61·3	47·9	54·1	—2·4	85	0	4	1·11	+0·21	*	*
	Cullompton	69	43	64·6	47·6	55·5	—1·9	95	0	3	0·61	+0·02	37·4	33
	Falmouth	64	51	60·9	53·3	56·8	—0·3	104	0	5	1·25	+0·37	47·1	42
	Plymouth	71	51	65·9	52·0	58·5	+0·8	116	0	3	1·17	+0·69	38·1	34
	Prawle Point	65	49	59·6	50·6	54·8	—1·0	90	0	5	0·97	?	*	*
9. IRELAND, N.	Malin Head	63	47	58·9	50·0	54·1	—0·1	85	0	3	0·38	?	*	*
	Londonderry	70	46	65·6	50·3	57·4	+2·2	108	0	4	0·45	—0·13	*	*
	Mullaghmore	64	48	61·7	50·6	55·8	—0·6	97	0	5	0·57	—0·15	*	*
	Belmullet	63	48	60·3	51·0	55·3	+0·6	93	0	4	0·47	?	*	*
	Markree Castle	67	44	63·0	48·5	55·3	—0·9	93	0	6	0·70	+0·02	40·0	34
	Brookeborough	68	46	64·5	49·4	56·4	0·0	101	0	4	0·52	?	*	*
	Armagh	68	46	64·1	49·9	56·5	+0·2	102	0	3	0·32	—0·16	34·1	29
	Donaghadee	66	49	59·9	50·7	55·0	—0·4	91	0	5	0·48	0·00	*	*
	Edgeworthstown	71	45	65·1	49·1	56·5	+1·0	102	0	4	0·44	—0·30	*	*
10. IRELAND, S.	Dublin	68	50	64·3	§52·1	§57·8	§+1·6	§111	0	4	0·53	+0·08	38·2	33
	Parsonstown	69	48	65·6	50·1	57·3	+0·9	107	0	4	0·38	—0·17	35·6	31
	Kilkenny	70	47	64·9	50·3	57·1	+0·8	106	0	4	0·33	—0·19	*	*
	Waterford	69	49	64·9	51·3	57·6	0·0	109	0	4	0·62	+0·04	*	*
	Roche's Point	64	50	61·3	52·0	56·3	—1·4	100	0	4	0·80	+0·05	*	*
	Valencia	63	49	59·7	51·7	55·4	—0·3	94	0	3	1·09	+0·31	40·0	35
	Killarney	67	51	63·1	51·9	57·1	+0·8	106	0	4	0·95	?	*	*
	Foynes	66	48	63·8	51·4	57·2	+1·5	106	0	5	0·30	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	62	51	58·7	52·9	55·6	—1·1	95	0	4	1·09	+0·65	*	*
	Jersey	66	48	61·6	52·4	56·7	—0·9	103	0	4	0·85	+0·43	42·2	38

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ ERRATA.—The corresponding values in the Report for the week ending May 31st should read "46·6," "52·9," "—0·8," "76."

II.—SUMMARY OF WEATHER OVER EUROPE.

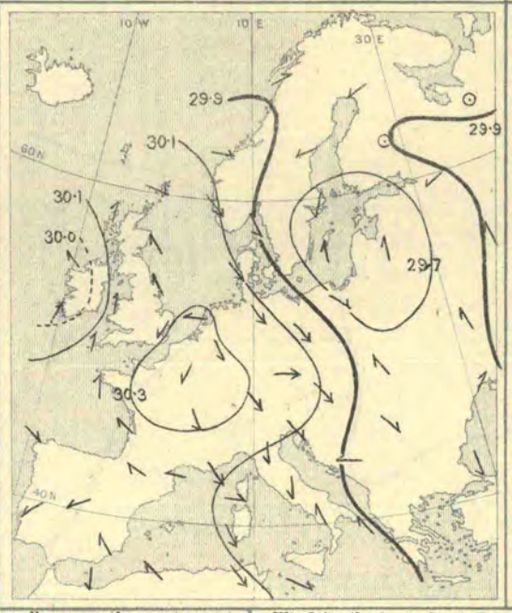
Sunday, 8th June.

Temperature and Weather.

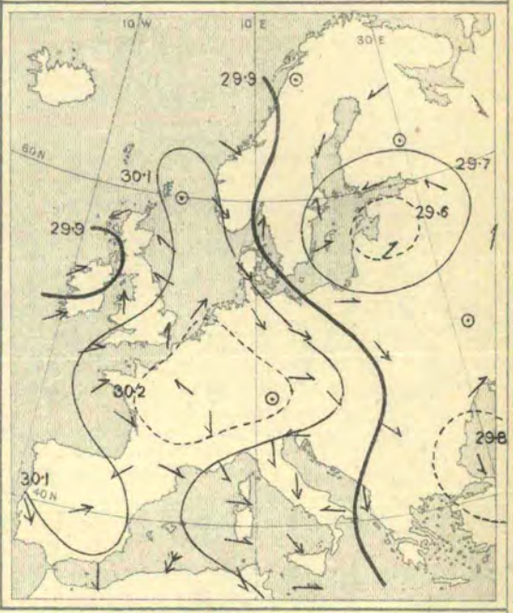
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the northern and eastern parts of Great Britain, as well as over the greater part of Russia, southern Europe, and Algeria. Rainy in the west of our Islands, and also at some of the German and Austrian stations, and foggy in the west of Norway, as well as at Hernösand, Scilly, and Corunna. Rain extending later to nearly all parts of the United Kingdom. Heavy fall (1·5 ins.) taking place at Brindisi.

Temperature highest, 77° at Lisbon and Algiers, 75° at Bilbao, Barcelona, and Oran, 73° at Brindisi, and 72° at Nemours and La Calle; considerably above 60° at most of the Russian stations—as high as 68° even at Kuopio. Lowest, 46° at Munich, 48° at Bodö and Paris, 49° at Mullaghmore and Prague, and 50° at Fanö, Malin Head, Belmullet, Donaghadee, Le Mans, and Münster. Highest daily maxima over our Islands, 68° at Cambridge and 67° at Parsonstown and in London, but thermometer exceeding 80° in many parts of France, Spain, and Italy, and rising above 90° in central Algeria.

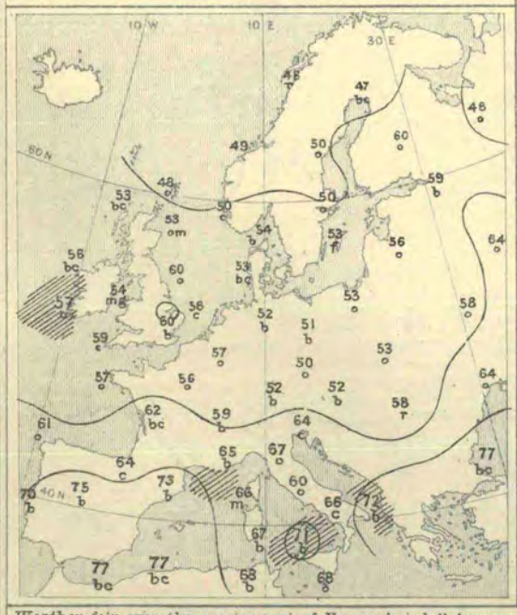
Wind Southerly or South-Easterly in most parts of our Islands and France; strong in force at some of our western stations, light or moderate elsewhere. Strong from the North-Westward over Austria, Germany, and the eastern shores of the North Sea, light from South or South-East in central and southern Russia, and from the North-East in Sweden. Variable in Italy and central France, Easterly or North-Easterly in Spain, North-Westerly over Tunis and the adjacent parts of the Mediterranean. Subsequently veering to the South-Westward in all the more western and southern parts of the United Kingdom.

Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over the extreme south-east of England and the north of France, 30·2 ins. and upwards over nearly the whole of Great Britain, France, Spain, and western Germany. Lowest, 29·7 ins. and less, in an irregularly-formed depression lying over the Baltic and adjacent regions, 30·0 ins. and less in another disturbance lying over the west of Ireland, and also (apparently) in a third system over the extreme south of Italy. Depression in west subsequently moving north-eastwards, and barometer falling in all parts of western Europe.

Monday, 9th June.

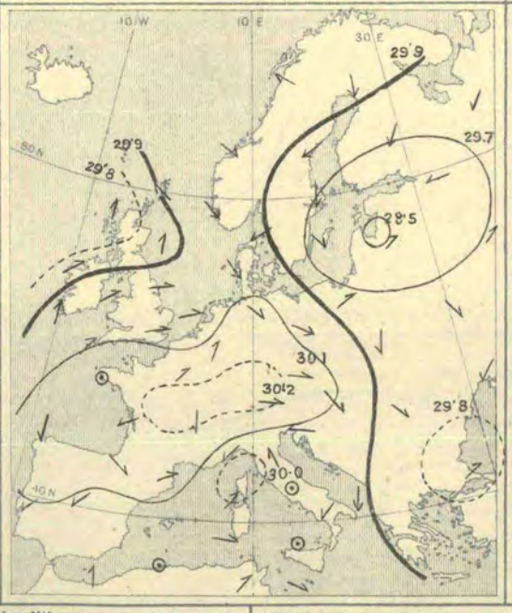
Temperature and Weather.

8 a.m.

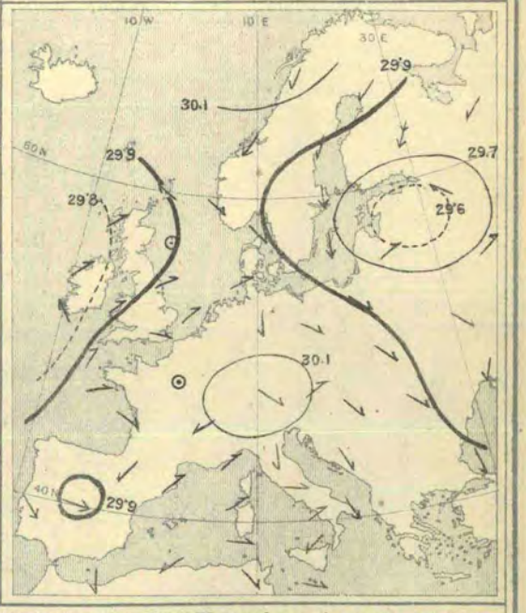


Barometer and Wind.

8 a.m.



6 p.m.



Weather fair over the greater part of Europe, but dull in some localities, more especially over Russia, Sweden, the Baltic, and eastern Germany. Fog reported in the Straits of Dover, as well as at Helsingfors, Wisby, and Wick, and rain at Bodö and Hermanstadt. Rain falling later in several of the more western and northern parts of the Kingdom (with thunder at Aberdeen) and solar halos seen at some of the Channel stations. Thunderstorm, with heavy rain, occurring at Constantinople.

Temperature highest, 77° at Oran, Algiers, and Constantinople, 75° at Madrid, 73° at Nemours; above 65° in most parts of southern and eastern Europe, and reaching 60° in some of the eastern parts of Great Britain. Lowest, 47° at Wisby, 48° at Archangel, Bodö, and Sumburgh Head, and 49° at Uleaborg and Christiansund. Thermometer rising later to 70° or a little above at some of the English stations, and to 80° or more in several parts of France, Spain, Italy, and Algeria, the highest readings of all being 95° at Laghouat and 93° at Oran and Biskra.

Wind light to moderate from the Southward or South-Westward over the greater part of our Islands, but South-Easterly in Caithness and the Shetlands. Strong from the North-Eastward or Northward over Finland and Sweden. Moderate to strong from the North-Westward on the eastern shores of the North Sea, and also over eastern Germany and Austria; light from South-West or South over central Russia. Chiefly Northerly in Italy and North-Easterly in Spain and the south of France, but Southerly or South-Easterly in Algeria. Subsequently increasing to a moderate to strong gale from the Southward on the west coast of Ireland.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone, the central portion of which lay over south Germany and central France. Lowest, 29·5 ins. and less, in a well-defined depression lying over the Gulf of Riga, 29·8 ins. and less in the west and north of Scotland, and also in a shallow disturbance lying over the western parts of the Black Sea, 30·0 ins. and less in another system over the Gulf of Genoa. New depression advancing later to the west of Ireland, and shallow secondary disturbances beginning to form over the west and south of France.

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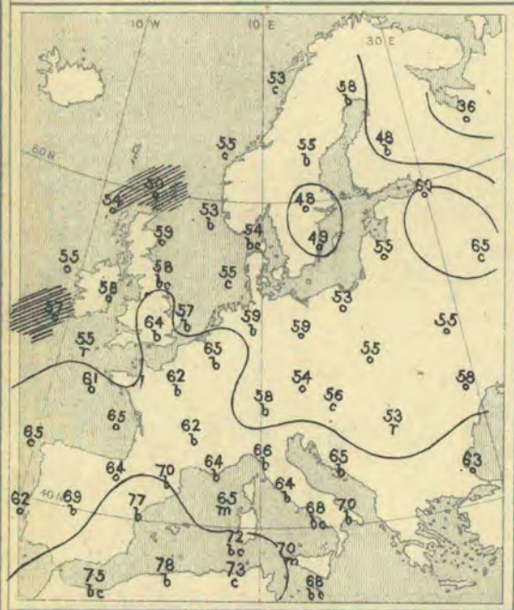
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 10th June.

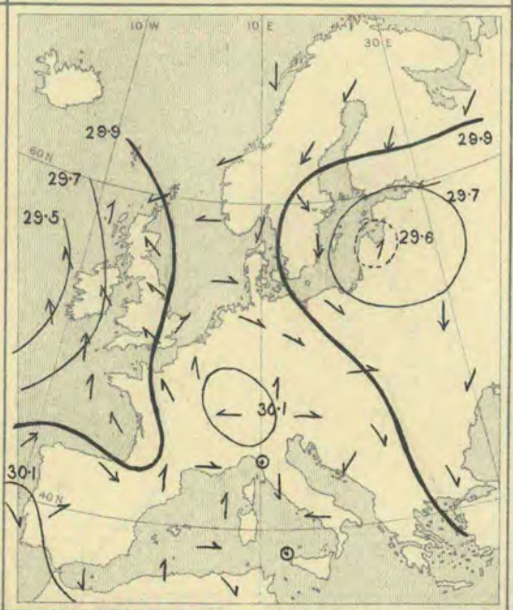
Temperature and Weather. 8 a.m.



Weather fine over the eastern parts of Great Britain, as well as in Finland, the north of Sweden, the Netherlands, and the greater part of southern Europe. Cloudy or overcast elsewhere, with fog at Cuxhaven and Prawle Point, and rain in the west of France, as well as at Hermanstadt; distant thunder was reported at Jersey. Considerable amounts of rain falling later in many parts of the United Kingdom and France, with thunderstorms in some of the central districts; largest amounts reported, 2·4 ins. at Charleville and 2·1 ins. at Cape Gris Nez.

Temperature highest, 78° at Algiers, 77° at Barcelona, 75° at Oran and Aumale, 73° at La Calle, and 72° at Leghorn and Cagliari; above 60° in several of the more eastern parts of Great Britain. Lowest, 36° at Archangel, 48° at Kuopio, Hangö, and Stockholm, 49° at Helsingfors and Wisby, and 50° at Sumburgh Head. Subsequently rising to between 70° and 75° over the inland parts of Great Britain, to 80° or more at several of the French, Spanish, and Italian stations, and to 90° or more in some parts of Algeria, highest reading of all being 99° at Laghouat.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Wind South-Easterly or Southerly over the greater part of our Islands and France, as well as in western Algeria; light or moderate in force generally, but strong at Valencia Island. Moderate from the North-Eastward in Finland, strong from the Northward in Sweden, light or moderate from the Westward or North-Westward over Denmark, Germany, and Austria; variable in Italy; South-Westerly to Westerly over the Spanish Peninsula. Subsequently veering to the South-Westward or Westward over France and the south of England.

Barometer highest, 30·1 ins. and upwards, over south Germany, and also over Tunis and the south-western parts of the Iberian Peninsula, 30·0 ins. and upwards over Finmark and Lapland. Lowest, 29·5 ins. and less, in a depression lying to the westward of Ireland, 29·6 ins. and less in another system lying over the Gulf of Riga; shallow secondary disturbances lying over the Bay of Biscay and the west of France. Depression off the west of Ireland and secondary systems moving northwards later, and barometer falling rather decidedly over Great Britain.

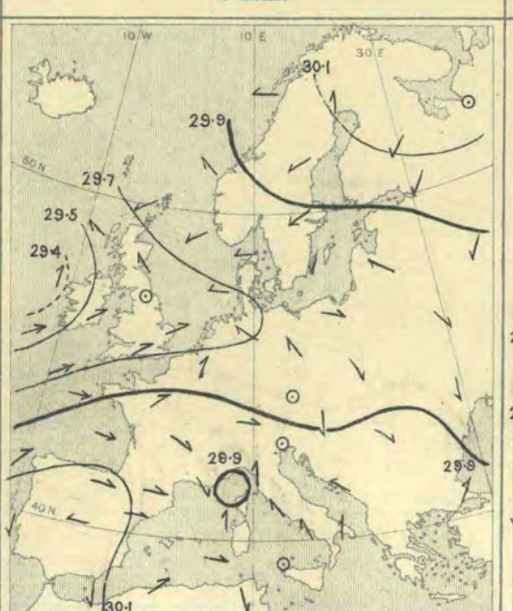
Wednesday, 11th June.

Temperature and Weather. 8 a.m.

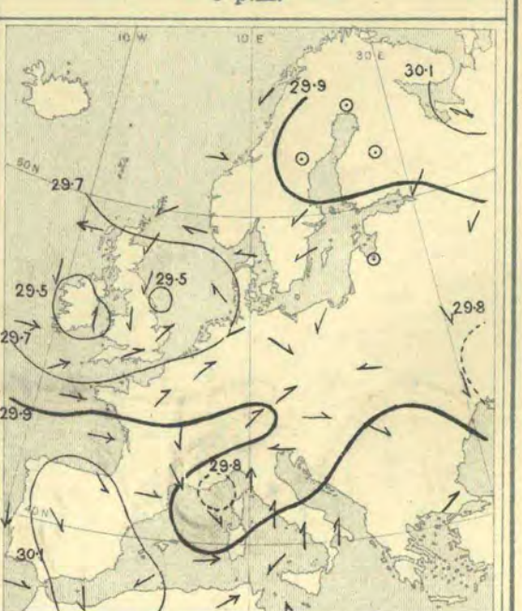
Weather fair over the greater part of England, as well as in Finland, Denmark, the north of Scandinavia, Spain, Algeria, and the south of Italy. Cloudy or overcast elsewhere, with rain in the north of our Islands, as well as at Stockholm, Neufahrwasser, Limoges, and Biarritz, and passing showers at some of our own south-western stations. Thunderstorm reported at Sanguinaire. Considerable falls of rain taking place during day in many parts of western Europe, with thunderstorms at some of the English, Irish, and French stations. Heavy rain also falling in some parts of Russia and Austria (3·2 ins. at Trieste).

Temperature highest, 78° at Oran and Algiers, 75° at Barcelona, 73° at Sfax, and 72° at Trieste, Cagliari, and Tunis; reaching 60° or more in the west of Norway. Lowest, 42° at Archangel, 48° at Kuopio and Sumburgh Head, 49° at Aberdeen, 50° at Wisby, and 51° at Hangö, Stockholm, and Wick. Subsequently rising to 65° or more at some of the inland English stations, to 70° or more in France, and to 80° or more in many parts of southern Europe and Algeria, the highest readings of all being 99° at Biskra and 95° at Laghouat.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Wind fresh to strong from the South-Westward or Westward over the southern parts of our Islands and the west of France, moderate from the same quarters over the north of England and the east and south of France. Moderate from South-East in Scotland and from the Eastward over Scandinavia, Denmark, and northern Russia. Light from North-West in Austria, Southerly in Italy; rather variable over the Spanish Peninsula. Subsequently shifting to the North-Westward or Northward in the west of Ireland and to the Eastward in Scotland.

Barometer highest, 30·2 ins. and upwards, over the south of Portugal, 30·1 ins. and upwards over northern Russia. Lowest, 29·4 ins. and less, in a depression lying off the west of Ireland, 29·6 ins. and less in a shallow secondary disturbance off the north-east of England, 29·8 ins. and less in a long trough extending eastwards as far as central Russia. Depression in west subsequently advancing in an east-south-easterly direction across Ireland.

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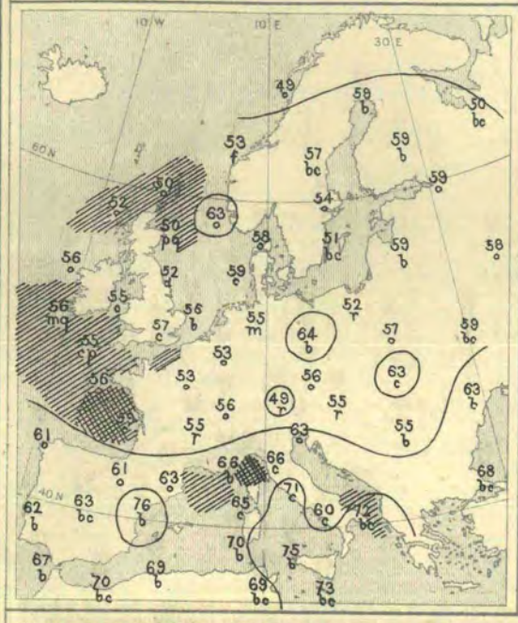
II.—SUMMARY OF WEATHER OVER EUROPE.

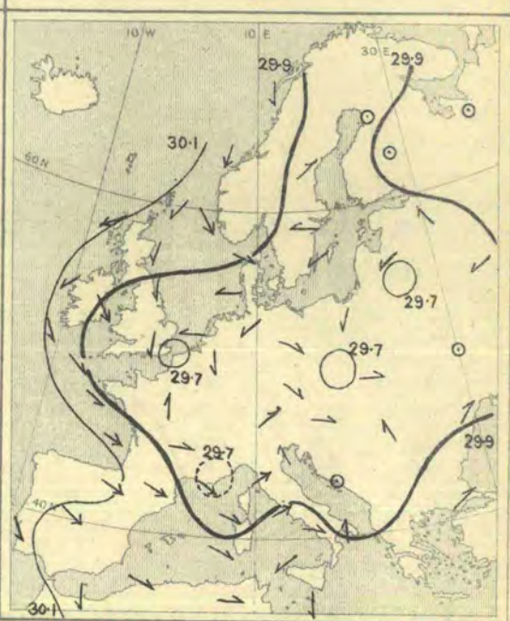
Thursday, 12th June.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine and bright over Finland and northern Russia, and also over the Mediterranean and south-eastern Europe; very changeable and unsettled elsewhere—especially over the British Islands, with rain in many places. Thunderstorms occurring frequently over the north and east of England during the day, and rain in most parts of Germany and France; amount exceeding 0·6 in. in London, and also at the Helder and Besançon.

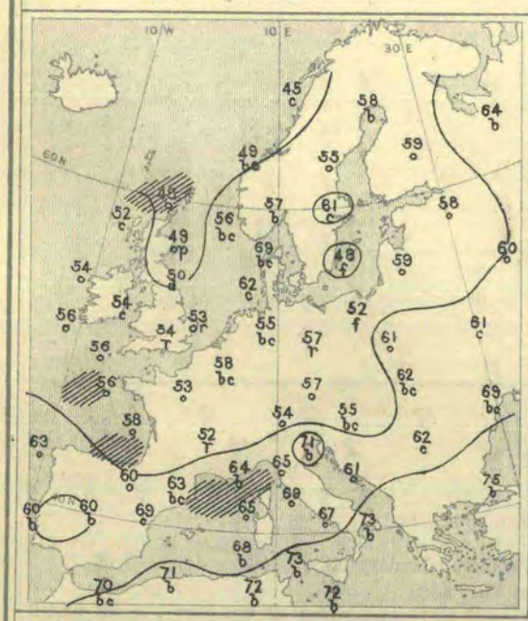
Temperature highest, 76° at Barcelona and Sfax, 75° at Palermo, 73° at Malta, and 72° at Brindisi; above 65° in most parts of southern Europe. Lowest, 49° at Bodö and Munich, and 50° at Archangel, Sumburgh Head, and Aberdeen; below 55° in some parts of central England. Daily maxima below 60° at most of our northern and north-western stations, but thermometer exceeding 65° over our eastern and midland counties, and exceeding 75° in most parts of southern Europe. Highest European maxima 88° at Brindisi and 86° at Palermo, but thermometer reaching 99° at Laghouat.

Wind light from the North-Eastward or Eastward in Scandinavia, Denmark, and northern Russia; moderate to strong from the same quarters in Scotland. Moderate from North or North-West in the west and south-west of our Islands; fresh or strong from West over the Channel and Bay of Biscay; light or moderate from the South-Westward or Southward over the east of England, the greater part of central Europe, and the north of Italy; variable in Algeria and the south of Spain. Northerly winds spreading later to nearly all parts of the United Kingdom.

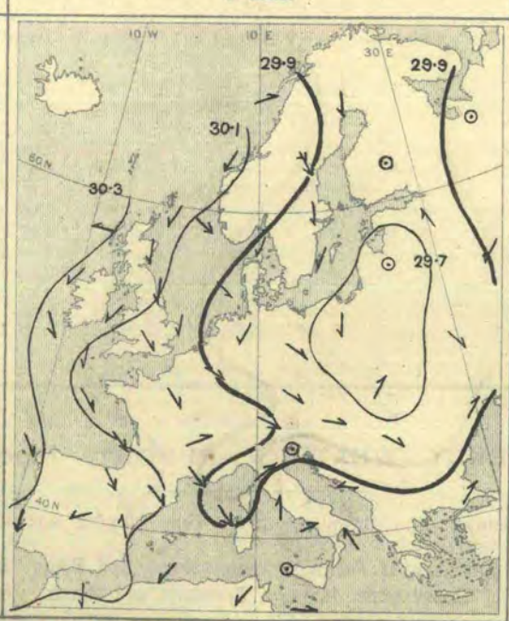
Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying off the south-west of Spain, 30·1 ins. and upwards in another system lying over northern Russia. Lowest, 29·6 ins. and less, in two depressions, one lying over the north-east of England and the other over our southern counties, 29·8 ins. and less in a long trough extending from Ireland to the central and southern parts of Russia, and also in small shallow disturbances lying over the south of France and northern Italy. Depressions over England subsequently moving eastwards and dispersing, and barometer rising in all parts of western Europe.

Friday, 13th June.

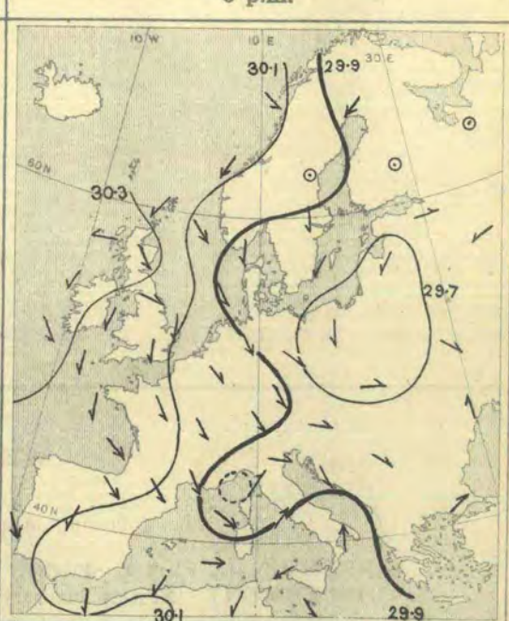
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine as a whole over the western parts of the British Islands, Norway, Lapland, and northern Russia, also over the Mediterranean and south-eastern Europe; dull and cloudy elsewhere, with rain in several places. Rain later in many parts of Austria, Germany, France, and south-eastern England, and slight falls at some of the Baltic and Danish stations. Thunderstorms occurring later in some parts of western Germany.

Temperature exceeding 70° over the southern parts of the Mediterranean and at Constantinople, and exceeding 60° over Spain, the southern parts of France, northern Italy, and the greater part of Russia. Lower elsewhere; as low as 43° at Bodö, 48° at Sumburgh Head, 49° at Christiansund and Aberdeen, 50° at Nairn and Shields, 52° at Paris, and 54° in London. Rising to little above 60° over England and Ireland later, and not reaching 70° at the French stations, but thermometer exceeding 80° in Algeria and the south of Italy, the highest reading of all being 99° at Biskra and Laghouat. Night cold over the British Islands.

Wind moderate Northerly over the British Islands, the North Sea, and Baltic, North-Westerly over France and north Germany, Westerly over south Germany, variable over Russia and Poland, South-Westerly (light) over the Black Sea. Moderate North-Westerly gale on parts of the northern shores of the Mediterranean, and also, locally, at Hernösand. Becoming rather variable in the north and west of our Islands later, and falling light towards night.

Barometer highest, 30·0 ins. to 30·3 ins., over the British Isles, the Bay of Biscay, Spain, and the west of France, and all adjacent parts of Atlantic, 29·9 ins. and more over central Russia. Lowest, 29·7 ins. and less, in a depression over northern and eastern Germany and western Russia, 29·8 ins. and less in another over Lapland and the north of Finland, 29·9 ins. and less in a third over the Gulf of Genoa. Rising over western Europe all day and gradients in our Islands becoming very slight.

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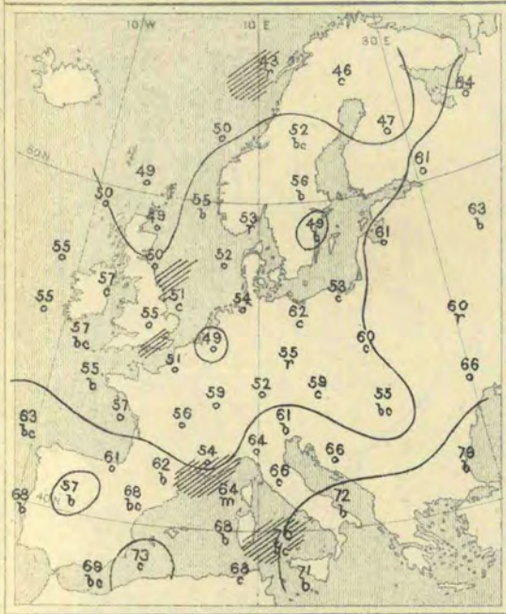
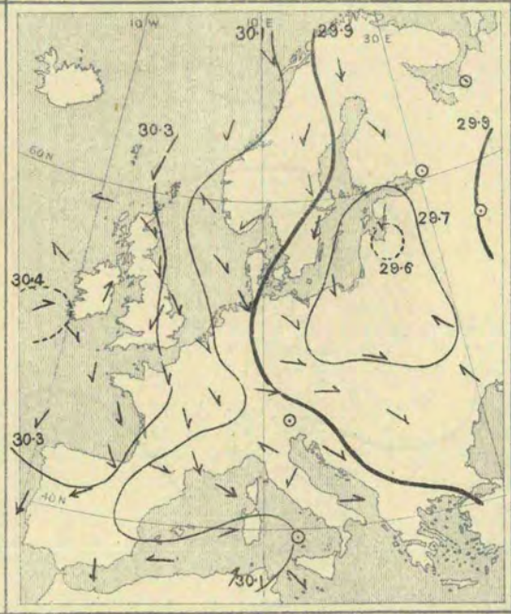
Saturday, 14th June.

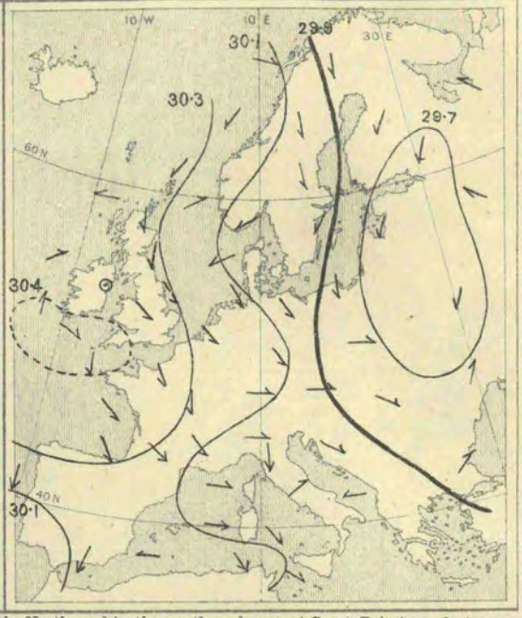
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright in the extreme south of England, as well as over Sweden and the greater part of southern Europe. Dull elsewhere, with rain at several of the German stations, as well as at Bodö, Skagen, and Nice. Sky clearing later in many parts of the United Kingdom, but weather remaining dull and rainy in Germany.

Temperature highest, 79° at Constantinople, 73° at Algiers, 72° at Brindisi and Sfax, and 71° at Malta; above 60° in most parts of southern Europe, and also in Russia. Lowest, 42° at Uleaborg, 43° at Bodö, 46° at Haparanda, and 48° at Nairn; below 50° in nearly all the more northern and eastern parts of the United Kingdom. Daily maxima below 60° at many of our northern stations, but thermometer rising above 65° in some of the central parts of England and Ireland, and above 70° in most parts of southern Europe. Highest readings of all, 93° at Biskra and Laghouat and 88° at Brindisi.

Wind light or moderate from the Northward in the north and east of Great Britain and strong from the same quarter in Sweden; light and variable in the western and south-western parts of the United Kingdom. Moderate from the North-Westward in Denmark, France, and western Germany, and from the Westward in Austria and eastern Germany. Light and variable in Russia and Algeria, fresh or strong from the North-Eastward in Spain. Southerly winds setting in later in the west of Ireland.

Barometer highest, 30·3 ins. to 30·4 ins., in a large anti-cyclone covering our Islands, the Bay of Biscay, the west of France, and the north of Spain. Lowest, 29·6 ins. and less, in a depression lying over the Baltic Provinces. Slight fall of barometer taking place later in many parts of our Islands, and also in Spain, but no important change reported in general distribution of pressure.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇉ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of the week pressure was, relatively speaking, low over the Baltic Provinces and western Russia, as well as over the Atlantic, in the neighbourhood of our western coasts, while it was high over France and the North Sea, as well as over the northern parts of Scandinavia. Thus, while North-Westerly to North-Easterly winds prevailed over the more northern countries, varying and South-Westerly winds were experienced in the south. The Russian low-pressure system gradually filled up; that in the west, augmented by the advance to its eastern side of a shallow secondary from the southward, moved eastwards between Wednesday and Friday, becoming shallower and larger as it did so, until its central parts occupied the same portion over the Baltic Provinces as that noticed by a previous disturbance earlier in the week. In its rear the barometer rose quickly, with the result that during the last two days of the week gradients for Northerly winds were prevalent over the western countries in Europe, with anti-cyclonic conditions over the British Islands and Bay of Biscay. With the advent of these latter conditions the thunderstorms and rains, so prevalent over western Europe during the earlier days, disappeared, and temperature fell, but over central and eastern Europe rainy weather continued.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March**, *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March**, *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 25.] *Third Series.* WEEK ENDING SATURDAY, 21ST JUNE, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 146.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	63	36	58·0	46·6	51·9	1 below.	69	+ 9	0	0	694	+155	438	− 73
	1. SCOTLAND, EAST -	69	36	63·4	47·9	55·1	1 above.	92	+ 9	0	0	829	+ 72	485	− 58
	2. ENGLAND, N.E. - -	73	36	65·7	50·3	57·5	1 above.	109	+20	0	0	848	+ 57	389	− 93
	3. ENGLAND, EAST -	75	40	67·4	49·6	57·9	1 below.	111	+10	0	0	998	+ 20	468	− 39
	4. MIDLAND COUNTIES	74	41	66·8	49·2	57·4	1 below.	108	+ 8	0	0	1020	+ 12	478	− 26
	5. ENGLAND, SOUTH -	74	45	65·6	51·3	57·9	1 below.	111	+ 4	0	0	1107	+ 25	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	64	45	60·5	49·9	54·9	1 below.	90	+ 3	0	0	904	+ 79	325	− 73
	7. ENGLAND, N.W. -	70	42	62·5	51·3	56·5	1 below.	102	+ 9	0	0	944	+ 73	302	− 81
	8. ENGLAND, S.W. -	74	43	63·1	51·4	56·9	1 below.	104	+ 5	0	0	1086	+ 24	245	+ 12
	9. IRELAND, NORTH -	72	48	61·9	51·7	56·4	0 (average)	101	+13	0	0	960	+ 53	295	− 55
	10. IRELAND, SOUTH -	71	48	63·3	52·4	57·5	0 (average)	109	+15	0	0	1138	+ 57	225	− 14
	— CHANNEL ISLANDS -	65	51	61·0	53·1	56·8	2 below.	104	+ 2	0	0	1260	+107	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 146.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	7	12	4 more.	119	+11	22·5	− 0·5	20	16	561	−97	26	− 4
	1. SCOTLAND, EAST -	6	4	1 less.	101	+13	13·2	− 0·5	36	29	633	−94	29	− 4
	2. ENGLAND, N.E. - -	3	4	1 less.	84	− 3	9·6	− 1·9	34	28	587	−63	27	− 3
	3. ENGLAND, EAST -	4	2	3 less.	89	0	9·7	− 1·0	38	33	764	−31	36	− 1
	4. MIDLAND COUNTIES-	3	3	3 less.	81	− 6	9·5	− 3·1	31	27	662	−38	31	− 1
	5. ENGLAND, SOUTH -	3	2	2 less.	84	0	11·5	− 0·7	30	27	715	−23	33	− 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	6	9	1 more.	105	+ 8	22·9	− 0·9	25	21	668	−24	31	− 1
	7. ENGLAND, N.W. - -	4	6	0 (average).	95	+ 6	14·0	− 0·2	22	19	629	−66	29	− 3
	8. ENGLAND, S.W. - -	4	4	3 less.	99	+ 4	16·5	− 2·6	29	25	746	−67	35	− 3
	9. IRELAND, NORTH -	6	5	1 less.	111	+ 4	14·3	− 1·3	20	17	676	−13	31	− 1
	10. IRELAND, SOUTH -	5	4	2 less.	112	+10	20·4	+ 2·1	16	14	713	−57	33	− 3
	— CHANNEL ISLANDS -	2	1	3 less.	103	0	15·2	+ 0·6	45	41	887	−75	41	− 3

General Remarks.

Weather has been very dull generally, with frequent rain in Ireland and Scotland, and occasional falls of rain over England.

Temperature has not differed materially from the mean; in the east of Scotland and north-east of England it has been 1° above, and in most other parts of the Kingdom 1° below the normal. The highest of the maxima were recorded either on the 15th or 16th, and varied from 63° in "Scotland N." and 64° in "Scotland W." to 74° over central, southern, and south-western England, and 75° in "England E." The lowest of the minima, which were recorded on somewhat variable dates, ranged from 36° in the north and east of Scotland and north-east of England to 48° in Ireland and to 51° in the "Channel Islands."

Rainfall has been more than the mean in the north and west of Scotland and equal to it in "England N.W.;" in all other districts, however, the fall has been rather less than the normal.

Bright Sunshine has continued very deficient generally, the percentage of the possible duration having ranged from 14 to 17 in Ireland, from 16 to 29 in Scotland, and from 19 to 33 in England. In the "Channel Islands," however, as much as 41 per cent. has been recorded.

Barometer and Wind.—During the whole of this period the barometer was highest in the south and south-west, lowest in the north, the gradients being slight. The wind was consequently light or moderate from between South and West. No important depressions appeared in our neighbourhood, but during the latter part of the week very shallow disturbances passed over us from the westward.

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III.—DATA from which the SUMMARY on page 145 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	57	43	55·1	46·6	50·6	−1·1	60	0	7	0·33	−0·16	*	*
	Stornoway	59	40	57·6	46·9	51·9	−1·0	69	0	7	1·77	+1·07	30·7	25
	Wick	63	36	60·0	44·6	51·8	−0·9	69	0	6	0·98	+0·56	*	*
	Lairg ℌ	62	37	59·6	46·3	52·5	+0·3	74	0	7	0·65	+0·06	*	*
	Glencarron ℌ	58	42	56·0	46·6	51·0	−1·5	63	0	7	2·59†	+1·28	?	?
	Fort Augustus ℌ	62	43	59·9	48·3	53·7	−1·4	82	0	7	0·87†	?	8·6	7
1. SCOTLAND, E.	Nairn	67	36	63·6	47·7	55·2	+0·3	92	0	7	0·42	−0·03	*	*
	Aberdeen	66	38	63·0	48·1	55·1	−0·2	92	0	4	0·31	−0·14	41·2	33
	Braemar ℌ	65	43	61·0	46·4	53·2	+0·7	78	0	4	0·50	−0·11	28·0‡	23‡
	Ochtertyre ℌ	69	45	65·0	49·0	56·4	+1·8	101	0	6	0·29	−0·40	*	*
	Leith	67	41	64·0	49·0	56·1	0·0	99	0	6	0·50	+0·06	*	*
	Marchmont ℌ	65	40	63·6	47·4	54·8	+0·2	90	0	6	0·60	−0·02	39·0	32
2. ENGLAND, N.E.	Alnwick Castle	66	48	64·0	51·7	57·4	+2·4	108	0	3	0·42	−0·04	*	*
	Durham	71	36	67·2	48·3	57·1	+0·7	106	0	2	0·22	−0·27	33·5	28
	Shields	68	40	64·7	49·0	56·4	+0·5	101	0	4	0 34	−0·09	*	*
	Scarborough ℳ	71	41	66·2	50·3	57·7	+1·5	110	0	3	0·10	−0·40	37·2‡	32‡
	York	72	43	67·3	49·9	58·1	+0·2	113	0	4	0·24	−0·32	29·9	25
	Spurn Head	73	48	64·9	52·3	58·2	+1·5	113	0	2	0·22	?	*	*
3. ENGLAND, E.	Hillington ℳ	73	43	67·6	48·9	57·6	+0·1	109	0	5	0·33	−0·23	37·1	32
	Yarmouth	74	45	65·6	50·6	57·7	−0·2	110	0	5	0·26	−0·22	*	*
	Geldeston	75	40	67·2	48·9	57·4	−0·8	108	0	4	0·12	−0·30	37·9	33
	Cambridge	74	46	69·3	50·3	59·2	−0·4	120	0	4	0·16	−0·40	38·9	34
	Rothamsted	73	46	67·7	49·6	58·0	−1·8	112	0	3	0·32	−0·20	*	*
	Ingatestone	72	46	67·0	49·3	57·5	−2·8	103	0	4	0·26	−0·27	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	73	47	66·7	51·6	58·6	+0·2	116	0	2	0·10	−0·50	27·5‡	24‡
	Loughborough	74	41	68·6	49·3	58·4	−1·0	115	0	3	0·28	−0·30	32·6‡	28‡
	Cheadle ℳ	69	44	63·9	48·5	55·7	−1·9	96	0	3	0·53	−0·19	*	*
	Churchstoke ℳ	71	42	65·9	46·9	55·7	−1·7	96	0	3	0·23	−0·30	25·3	22
	Hereford ℳ	73	44	67·6	48·8	57·6	−1·3	109	0	3	0·27	−0·25	*	*
	Cirencester	70	45	66·1	48·7	56·8	−1·4	104	0	3	0·36	−0·24	33·0	29
	Oxford	72	46	68·7	50·3	59·0	−0·2	119	0	2	0·13	−0·41	38·6	34
5. ENGLAND, S.	London	74	48	68·0	51·3	59·2	−1·4	120	0	3	0·35	−0·13	30·1‡	26‡
	Strathfield Turgiss ℳ	73	45	70·0	48·9	58·7	+0·4	117	0	4	0·24	−0·24	*	*
	Dungeness	68	47	62·6	51·3	56·6	−2·5	102	0	3	0·14	−0·26	45·1‡	40‡
	Hastings (St. Leonards)	68	49	62·1	51·2	56·3	−2·4	100	0	3	0·16	−0·24	34·1	30
	Southampton	73	49	68·5	51·6	59·5	+0·4	123	0	4	0·26	−0·22	31·6	28
	Hurst Castle	67	50	63·3	52·3	57·5	−1·1	109	0	2	0·16	−0·32	*	*
	Stowell ℳ	67	47	64·6	50·9	57·3	−0·8	107	0	3	0·23	?	10·8‡	9‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	61	49	59·3	50·2	54·6	−0·3	88	0	7	1·66†	+0·44	*	*
	Glasgow	63	46	60·9	49·7	54·9	−0·6	90	0	7	1·09	+0·39	23·1	19
	Ardrossan	62	47	59·9	50·7	55·0	−0·8	91	0	5	0·66	+0·04	*	*
	Glenlee ℌ	64	45	61·1	50·4	55·4	+0·4	94	0	6	0·79	−0·02	*	*
	Douglas (Isle of Man)	63	45	61·1	48·7	54·5	−1·2	88	0	5	0·45	−0·08	26·1	22
7. ENGLAND, N.W.	Newton Reigny	65	42	62·1	47·8	54·5	−1·3	88	0	6	0·47	−0·06	24·1	20
	Stonyhurst	66	48	62·0	50·7	56·0	−0·8	98	0	4	1·34	+0·51	25·1	21
	Blackpool ℳ	65	53	61·4	53·7	57·3	−0·4	107	0	2	0·70	+0·17	24·2	21
	Manchester	70	44	64·7	50·1	56·9	−1·5	104	0	4	0·59	−0·18	*	*
	Liverpool Obsy. (Bidston)	68	51	63·4	53·1	57·9	−0·3	111	0	3	0·33	−0·14	*	*
	Llandudno ℳ	69	49	63·1	52·4	57·4	−0·6	108	0	5	0·52	+0·05	14·7	13
	Holyhead	65	50	60·6	51·3	55·6	−1·2	95	0	4	0·23	−0·25	*	*
8. ENGLAND, S.W.	Llandovery	70	43	64·9	50·4	57·2	−1·2	106	0	7	0·95	+0·20	*	*
	Pembroke	60	51	57·7	52·7	55·0	−2·4	91	0	6	0·39	+0·10	20·1	17
	Arlington (N. Devon)	63	45	60·6	49·3	54·6	−3·3	88	0	6	0·67	−0·27	*	*
	Cullompton ℳ	71	45	68·5	50·6	58·9	+0·3	118	0	3	0·21	−0·39	30·9	27
	Falmouth	69	50	63·0	52·1	57·2	−1·2	106	0	2	0·14	−0·54	36·5	32
	Plymouth	74	50	67·5	53·7	60·1	+0·9	127	0	2	0·12	−0·37	26·9	24
	Prawle Point	63	48	59·7	51·0	55·1	−1·7	92	0	3	0·21	?	*	*
9. IRELAND, N.	Malin Head	61	50	59·1	51 3	54·9	−0·4	90	0	6	0·77	?	*	*
	Londonderry	69	50	64·0	50·7	56·9	+0·8	104	0	7	0·82	+0·20	*	*
	Mullaghmore	67	50	60·7	52·6	56·4	−0·9	101	0	7	0·55	−0·20	*	*
	Belmullet	61	52	58·9	53·4	56·0	+0·2	98	0	7	0·60	?	*	*
	Markree Castle	70	49	61·9	50·9	56·0	−1·5	98	0	7	0·30	−0·42	15·6	13
	Brookeborough	68	48	61·2	50·8	55·6	−1·9	95	0	6	0·62	?	*	*
	Armagh	70	49	63·8	50·5	56·7	−0·8	103	0	6	0·45	−0·06	24·4	21
	Donaghadee	72	50	65·0	53·7	59·0	+2·6	119	0	5	0·34	−0·15	*	*
	Edgeworthstown	67	48	62·9	51·0	56·5	−0·6	102	0	7	0·42	−0·37	*	*
10. IRELAND, S.	Dublin	70	52	64·7	53·8	58·9	+1·4	118	0	4	0·29	−0·17	15·5	13
	Parsonstown	70	50	63·1	52·1	57·2	0·0	106	0	6	0·35	−0·24	15·8	14
	Kilkenny	71	50	65·3	51·6	58·0	+0·5	112	0	6	0·35	−0·18	*	*
	Waterford	68	48	64·1	51·9	57·6	−1·0	109	0	4	0·29	−0·30	*	*
	Roche's Point	66	50	62·3	52·3	57·0	−2·0	105	0	2	0·55	−0·21	*	*
	Valencia	62	51	60·9	52·9	56·6	−0·1	102	0	6	0·56	−0·25	17·6	15
	Killarney	69	48	62·9	52·9	57·6	+0·1	109	0	6	0·35	?	*	*
	Foynes	70	50	? 62·8	? 52·0	? 57·0	? +0·3	? 105	0	? 7	0·55	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	62	51	59·9	53·3	56·4	−1·3	101	0	1	0·17	−0·28	*	*
	Jersey	65	51	62·0	52·9	57·1	−1·6	106	0	2	0·08	−0·35	45·4	41

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

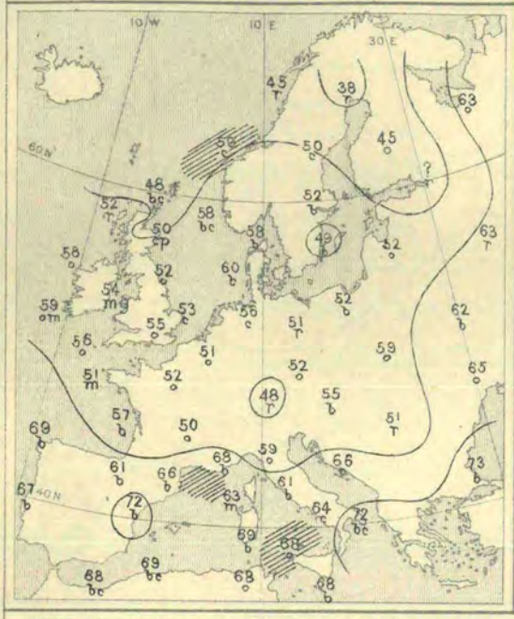
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

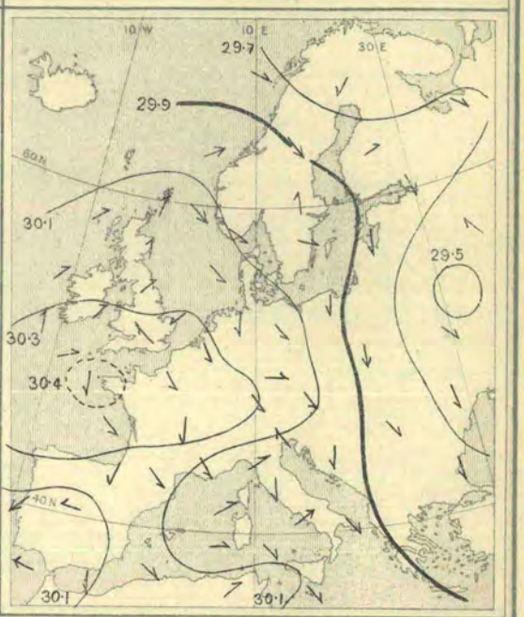
Sunday, 15th June.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine in the south of England, as well as in Denmark, the south of Scandinavia, and the greater part of southern Europe. Dull elsewhere, with rain in the west of Scotland, and also at several of the German, Austrian, and Russian stations. Showers falling during day in the west and north of our Islands generally, but weather improving greatly in France and Germany.

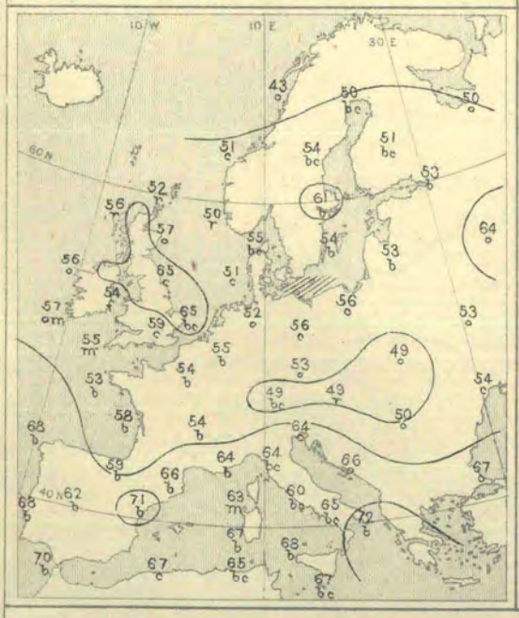
Temperature highest, 73° at Constantinople, 72° at Brindisi and Barcelona, and 69° at Turin, Corunna, Cagliari, Algiers, and Tunis; above 60° over southern and eastern Europe generally, as well as in one or two isolated parts of the United Kingdom. Lowest, 38° at Haparanda and Uleaborg, 45° at Bodö and Kuopio, 48° at Sumburgh Head, Nairn, and Munich, 49° at Wisby. Daily maxima exceeding 70° in many parts of England, Ireland, and France, and exceeding 80° at some of the Spanish and Algerian stations, as well as in the south of Italy.

Wind light from the Southward or South-Westward in most of the western and northern parts of the United Kingdom, and also in the north of Scandinavia, but moderate to strong from the North-Westward or Northward over Denmark, the Baltic, Germany, Austria, and the south of Scandinavia, as well as in Tunis and the south of Italy. Light from the Eastward (South-East to North-East) in Spain and the west of France, variable in the east and south of France and northern Italy. Southerly or South-Westerly winds setting in later in nearly all parts of the United Kingdom.

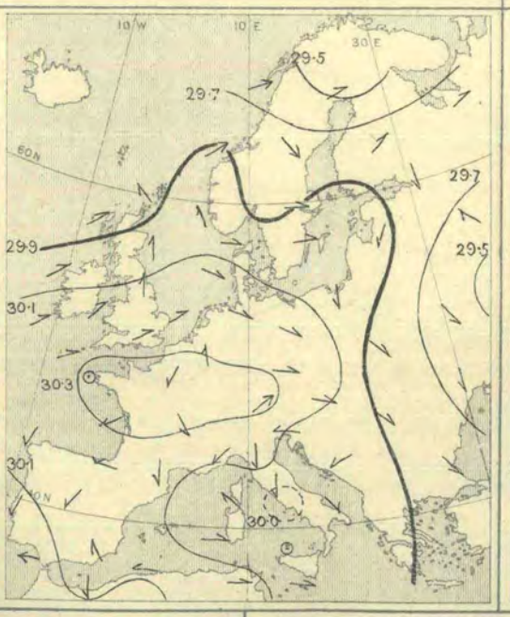
Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over the south of our Islands and the northern parts of France and the Bay of Biscay. Lowest, 29·6 ins. and less, in a shallow depression lying between Novgorod, Kiev, and Kharkov; 29·7 ins. and less in Lapland. Barometer falling during day in all parts of western Europe, and anti-cyclone becoming reduced in height. Russian depression growing somewhat deeper.

Monday, 16th June.

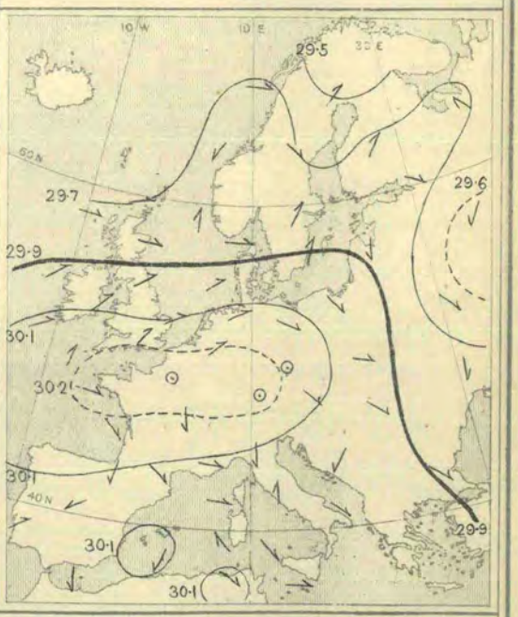
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Finland and Sweden, and also over the greater part of France and southern Europe. Cloudy or overcast elsewhere, with fog over the English, Bristol, and St. George's Channels, and rain in the Shetlands and Hebrides, as well as at Skudesnaes, Warsaw, and Vienna. Showers falling later in nearly all parts of the United Kingdom, but Channel fogs dispersing. Solar halos seen in the south of England in evening

Temperature highest, 72° at Brindisi, 71° at Barcelona, 70° at San Fernando, and 69° at Bilbao and Leghorn; above 60° in some of the more eastern and central parts of the United Kingdom. Lowest, 43° at Bodö, 48° at Warsaw, and 49° at Cracow and Lemberg, Vienna and Munich. Subsequently rising to 73° at Spurn Head, and to 74° at Cambridge, Yarmouth, and in London; exceeding 80° in Spain, Algeria, and the extreme south of France and Italy.

Wind light to moderate from the Southward or South-Westward in our Islands, and also in the north of Scandinavia; moderate from the Westward over Denmark and the Baltic, light from the North-Westward or Northward over Germany, Austria, Italy, and the south of Russia; Easterly in the west of France, North-Easterly in Spain, variable in Algeria. Subsequently veering to the Westward at most of the Scotch stations.

Barometer highest, 30·3 ins. and upwards, in an anti-cyclone lying over the Channel, the north of France, and western Germany. Lowest, 29·5 ins. and less, in a depression lying over Lapland, 29·6 ins. and less in another disturbance lying over the southern parts of central Russia, 29·9 ins. and less in a third system lying off the north of Scotland. Fall taking place during day in all parts of western Europe, and anti-cyclone to the south of our Islands gradually giving way.

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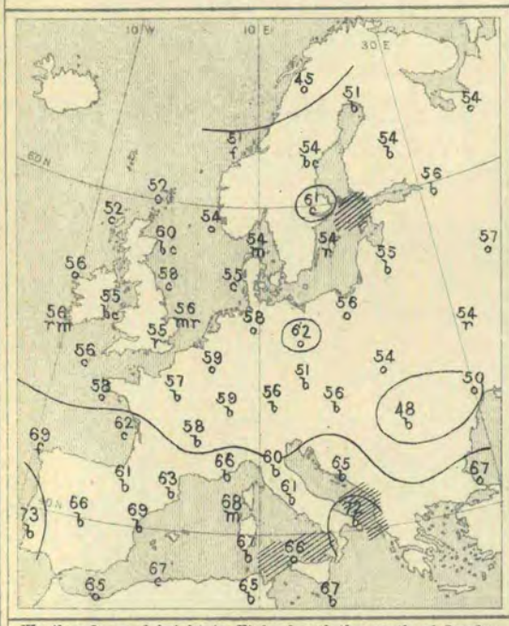
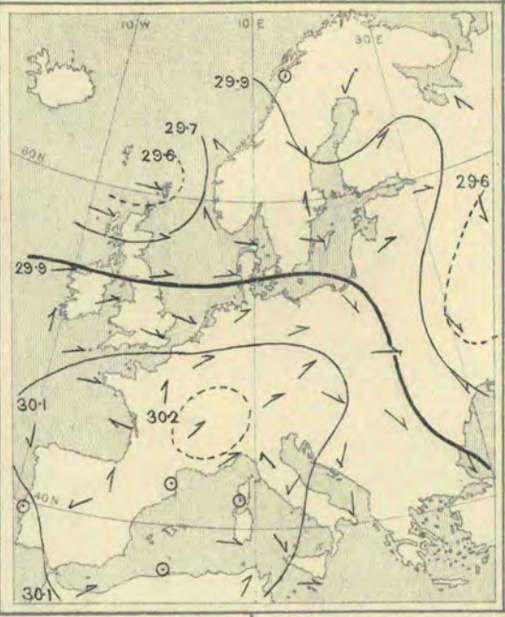
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 17th June.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright in Finland and the north of Sweden, as well as over France and the whole of southern Europe: fair in the northern parts of the United Kingdom. Dull elsewhere, with fog at Christiansund, Jersey, Lorient, and Corunna, and rain in the south-east of England, as well as at Valencia Island, Helsingfors, Wisby and Kiev. Showers falling during day in nearly all parts of north-western Europe and thunderstorms occurring at some of the German stations.

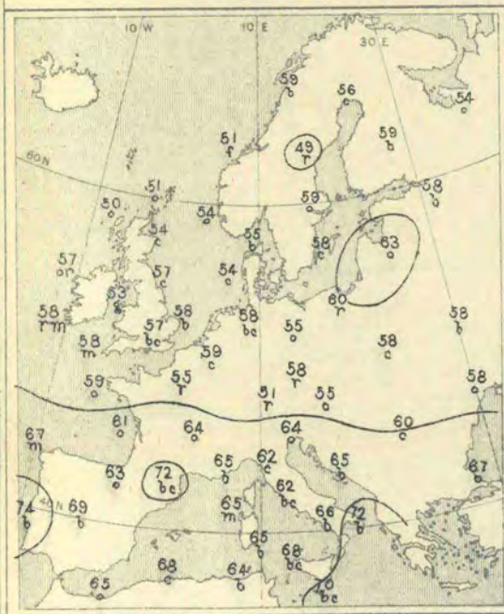
Temperature highest, 73° at Lisbon, 72° at Brindisi, 69° at Corunna, and 68° at Bilbao and Sanguinaire; above 60° over southern Europe generally, as well as in some parts of north Germany. Lowest, 45° at Bodö, 48° at Hermanstadt, 50° at Odessa, and 51° at Haparanda, Christiansund, Malin Head, Prague, and Nicolaieff. Daily maxima over England considerably lower than on previous day, highest reading of all being only 65° (at York and Loughborough). Thermometer exceeding 75° in France and exceeding 80° in some parts of Spain, Italy, and Algeria.

Wind light or moderate from the West or South-West over the greater part of our Islands, as well as over Finland, the Baltic, Denmark, and the northern parts of Germany and France; South-Easterly in the west of Norway, North-Westerly in Austria, eastern Germany, and the south of Russia, as well as in the north of Sweden; variable in France, Spain, Italy, and Algeria. Subsequently veering to the North-Westward at many of the Irish and Scotch stations.

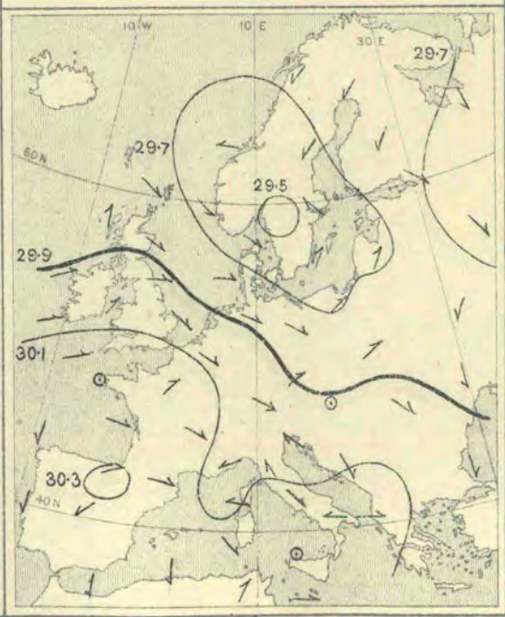
Barometer highest, 30·2 ins. and upwards, over south Germany and the east of France, 30·1 ins. and upwards in a large anti-cyclone lying over nearly the whole of France and southern Europe. Lowest, 29·6 ins. and less, in a large depression over Russia, and also in another disturbance lying to the northward of Scotland. Latter system subsequently travelling eastwards; small secondary disturbances passing across the United Kingdom during day. Russian depression travelling away north-eastwards.

Wednesday, 18th June.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine and bright over southern Europe and Algeria, as well as at some of the Russian stations; fair in Denmark and most parts of Great Britain, but foggy in the south-west. Dull elsewhere, with rain in the west of Ireland, as well as at several of the Swedish, French, German, and Austrian stations. Showers falling later in nearly all parts of the United Kingdom, and heavy rain in the Hebrides and some parts of Germany.

Temperature highest, 74° at Lisbon, 73° at Barcelona, 72° at Perpignan and Brindisi, and 69° at Leghorn; above 60° over southern Europe generally, as well as at some of the Baltic stations. Lowest, 49° at Hernosand, 50° at Stornoway, 51° at Christiansund, Sumburgh Head, and Munich, and 52° at Münster. Daily maxima over eastern and central England varying between 65° and 70°; thermometer exceeding 80° in Spain, Algeria, and the southern parts of France and Italy, the highest readings of all being 95° at Madrid and 90° at Biskra.

Wind light or moderate from the Southward or South-Westward in the west of our Islands, and from the Westward or North-Westward over our eastern districts, France, the North Sea, Denmark, and western Germany; Southerly over the Baltic and Easterly or North-Easterly over the northern parts of Scandinavia, but variable over Russia, Italy, and Algeria. Subsequently veering to the Westward on our west coasts and backing to the Southward in the east; no important change occurring at the Continental stations.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone extending northwards from Algeria to the Bay of Biscay and west of France. Lowest, 29·6 ins. and less, in a depression lying over the south of Sweden. New disturbance approaching the extreme north-west of our Islands later, but Swedish depression beginning to fill up.

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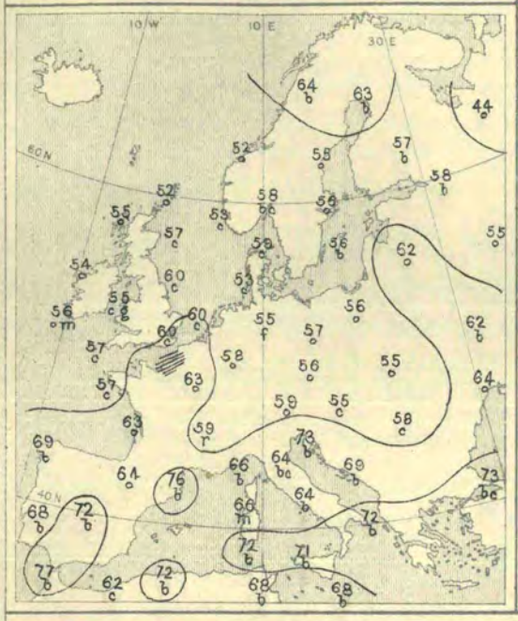
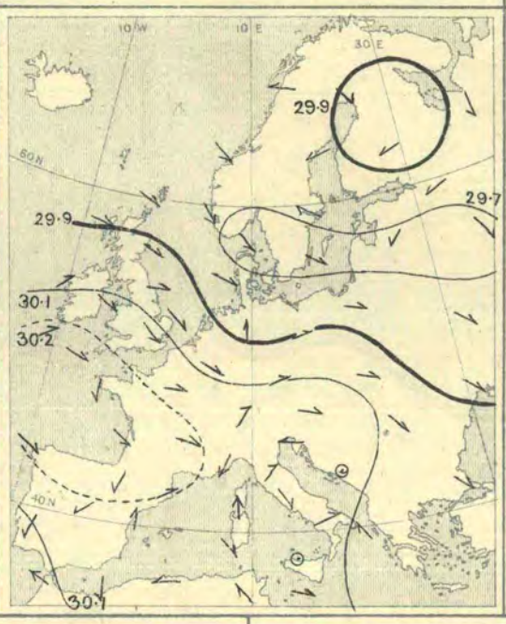
Thursday, 19th June.

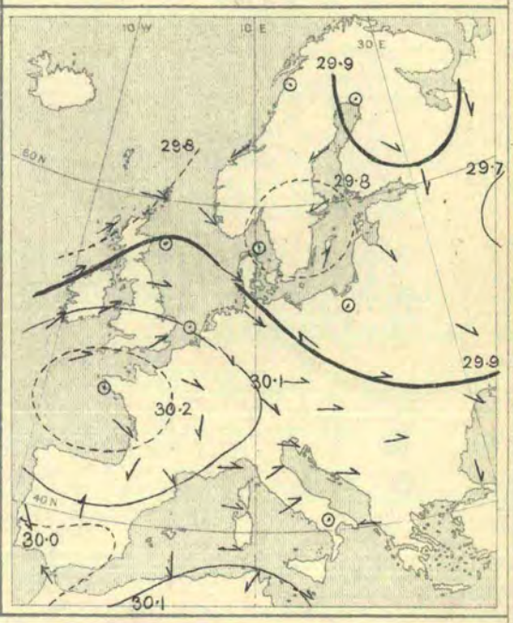
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair in most parts of Great Britain, and fine in Ireland, the north of Scandinavia, and the whole of southern Europe. Dull in the extreme north and north-west of our Islands, as well as in Germany, the Netherlands and France, with rain at Memel, Münster, and Limoges. A little rain falling later in the western and northern parts of the United Kingdom, as well as at most of the German and Austrian stations.

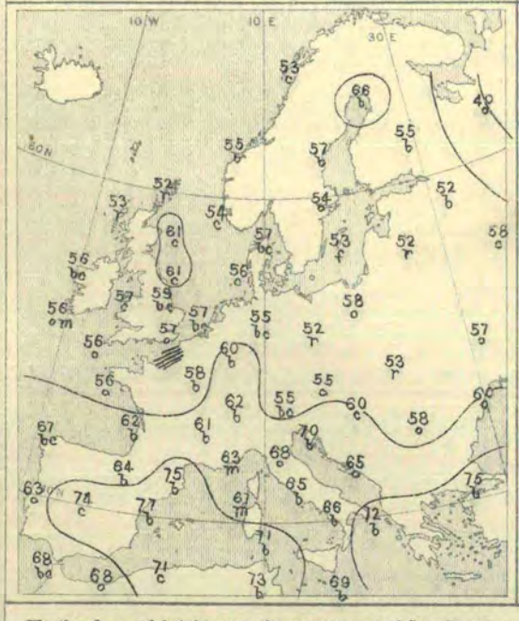
Temperature highest, 77° at Barcelona and San Fernando, 76° at Perpignan, 73° at Trieste and Constantinople, and 72° at Madrid, Brindisi, Cagliari, and Algiers. Lowest, 44° at Archangel, 52° at Christiansund and Sumburgh Head, 53° at Skudesnaes, Fanö, Warsaw, and Cracow. Daily maxima a little above 65° in many parts of the United Kingdom, and also at some of the Scandinavian stations. Thermometer rising considerably above 80° in Spain and the extreme south of France, as well as at several of the Italian and Algerian stations. Highest reading of all, 98° at Madrid.

Wind moderate from the South-Westward in the west of Ireland, and from the Westward or North-Westward over France and the remainder of our Islands, as well as in Germany and Austria. Light from the Eastward in the north of Russia, and also in Algeria and the south of Spain; variable in Italy. Subsequently backing to the South-Westward in all the more western parts of our Islands, and increasing to a strong breeze in the Hebrides and west of Ireland. Strong North-Westerly breeze setting in over Denmark.

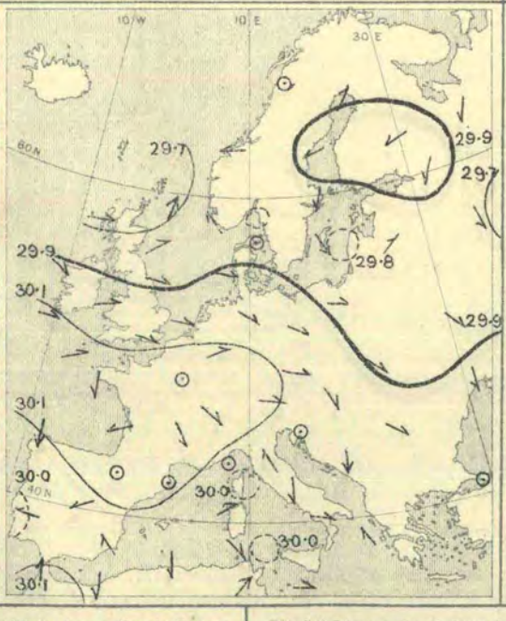
Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over the Bay of Biscay, the west of France, and the south-west of our Islands; high, 29·9 ins. and upwards, over Lapland and the north of Finland. Lowest, 29·7 ins. and less, in an elongated depression extending from the Scaw to central Russia. New disturbance approaching our west coasts later from the Atlantic, and barometer falling in all the more western and northern parts of the United Kingdom.

Friday, 20th June.

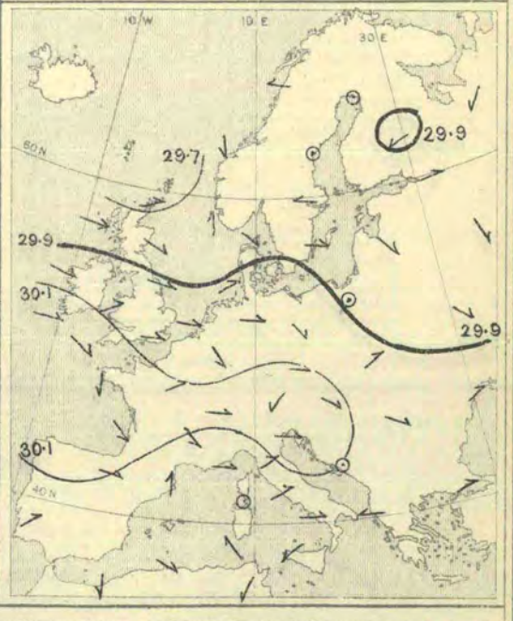
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the greater part of Scandinavia and Finland, as well as in France, Spain, Algeria, and the south of Italy. Fair in our Islands and many other parts of Europe, but dull in Germany, Austria, and the north of Italy, with rain at Riga, Breslau, Lemberg, and Pesaro, as well as in the Shetlands and Hebrides. Showers falling during day in the extreme north-west of our Islands, but sky clearing in other districts.

Temperature highest, 77° at Barcelona, 75° at Perpignan and Constantinople, 74° at Madrid, and 73° at La Calle; above 65° over southern Europe generally, and also in some parts of Lapland. Lowest, 40° at Archangel, 52° at St. Petersburg, Riga, Berlin, and Sumburgh Head, and 53° at Bodö, Wisby, Breslau, Lemberg, and Stornoway. Subsequently rising to between 65° and 70° in many parts of Great Britain, to 75° or more in France, and to 80° or more in Italy, Spain, Algeria, and the extreme south of France.

Wind light or moderate from the Westward over our Islands, Denmark, Germany, and the north of France, and from the North-Westward in Austria and the south of Russia. Light from the Eastward or North-Eastward in Scandinavia and Finland, and also in Spain and the west and south of France; variable in Italy and Algeria. Westerly breezes setting in later at most of the French stations. Wind freshening in the extreme north-west of our Islands.

Barometer highest, 30·2 ins. and upwards, in an elongated anti-cyclone extending eastwards from the Atlantic across the Bay of Biscay and France to South Germany, 29·9 ins. and upwards in Finland and the north of Sweden. Lowest, 29·7 ins. and less, in a depression lying off the north of Scotland, and also in a large area lying over central Russia; 29·8 ins. and less in small shallow disturbances lying in the neighbourhood of the south of Sweden. Depression in north subsequently moving eastwards, and barometer rising in most parts of the United Kingdom; shallow disturbances over Sweden filling up.

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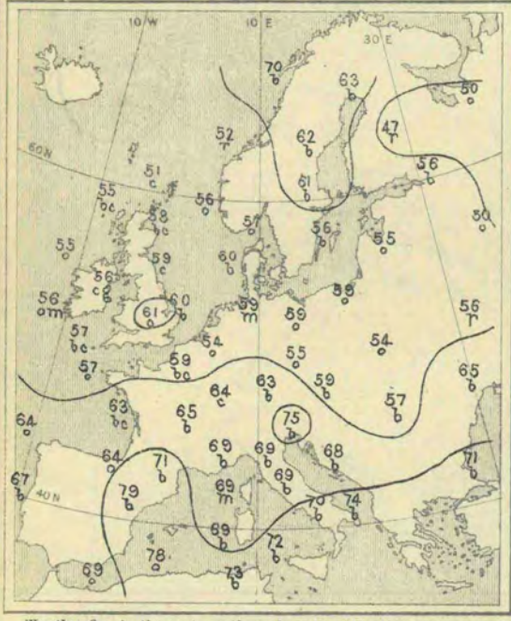
Saturday, 21st June.

Temperature and Weather.

8 a.m.

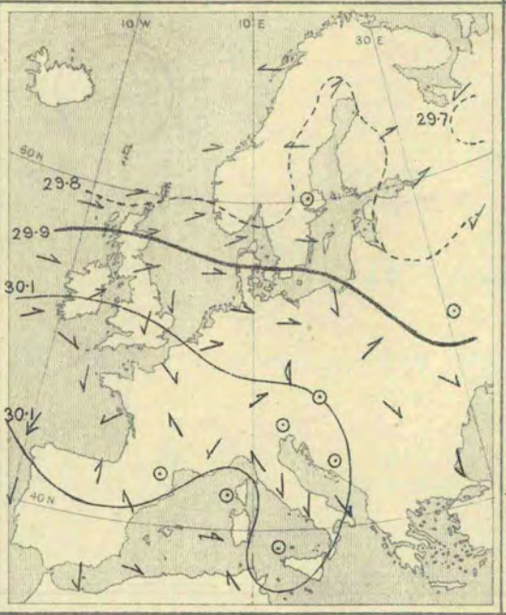


Weather fine in the east, north, and south of Great Britain, as well as in Sweden, Denmark, France, and the whole of southern and eastern Europe. Dull elsewhere, with rain at Kuopio, Christiansund, and Kiev, and passing showers at Malin Head. Rain falling later in all but the extreme southern parts of the United Kingdom, and thunderstorms occurring in Poland, south Germany, and central France.

Temperature highest, 79° at Barcelona, 78° at Algiers, 75° at Trieste, 74° at Brindisi, and 73° at Leghorn, La Calle, and Tunis; above 60° in Sweden and Lapland, and as high as 70° at Bodö. Lowest, 47° at Kuopio, 50° at Archangel, and 51° at Warsaw and Sumburgh Head. Thermometer rising during day to 70° or a little more at some of the English stations and to 80° or more in all parts of southern Europe, the highest readings of all being 95° at Laghouat and 91° at Cape Béarn.

Barometer and Wind.

8 a.m.



6 p.m.

Wind light or moderate from the Westward or South-Westward in nearly all parts of the United Kingdom, as well as over Norway, Denmark, and the greater part of Russia and central Europe. Light from the North-Westward over the Channel and north of France, moderate from the Northward or North-Eastward in Portugal, variable over Italy, Algeria, and the south of France. Moderate North-Westerly breezes setting in later at nearly all the French stations.

Barometer highest, 30·1 ins. and upwards, in a large anti-cyclone covering the Bay of Biscay, France, Italy, the southern parts of our Islands and Germany, and the north of Spain. Lowest, 29·7 ins. and less, in a shallow depression lying over northern Russia, and also (apparently) in another system lying to the westward of Norway. Small and very shallow disturbance appearing later over the south-east of England.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout this week pressure has been highest over south-western and western Europe and the Bay of Biscay, lowest in the north and over Russia. Several depressions of considerable size, but no great depth, reached the northern parts of the British Isles from the south-westward, and thence moved eastwards to the Baltic and Russia, causing showery unsettled weather over Ireland and all the more northern countries, and at times over Germany also. Their secondary systems have been very shallow, but by taking a more southerly course than the main disturbances have caused the rain to spread from time to time to the more southern parts of the United Kingdom and to France. The wind over the northern half of Europe has been mainly Westerly (South-West to North-West), but often Northerly or North-Easterly over Finland and the northern parts of Scandinavia. In the south it has been variable, in the south-west North-Easterly. Its force has been light to moderate. Temperature was very low generally at the beginning of the week, but was rising gradually during the later days.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 26.] *Third Series.* WEEK ENDING SATURDAY, 28TH JUNE, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 152.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	66	40	58·1	46·0	51·6	2 below.	67	+ 1	0	0	761	+138	438	− 73
	1. SCOTLAND, EAST -	69	36	62·7	46·3	53·9	2 below.	83	− 6	0	0	912	+ 44	485	− 58
	2. ENGLAND, N.E. - -	73	42	64·5	50·2	56·8	1 below.	104	+ 8	0	0	952	+ 46	389	− 93
	3. ENGLAND, EAST -	77	42	68·4	52·0	59·7	1 below.	124	+16	0	0	1122	+ 14	468	− 39
	4. MIDLAND COUNTIES	75	44	67·3	51·1	58·7	1 below.	117	+11	0	0	1137	+ 1	478	− 26
	5. ENGLAND, SOUTH -	77	45	66·5	52·6	59·1	1 below.	120	+ 6	0	0	1227	+ 11	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	67	36	61·3	48·6	54·6	2 below.	88	− 5	0	0	992	+ 55	325	− 73
	7. ENGLAND, N.W. -	68	40	63·0	51·3	56·8	2 below.	104	+ 5	0	0	1048	+ 59	302	− 81
	8. ENGLAND, S.W. -	75	41	64·2	52·7	58·0	1 below.	112	+ 6	0	0	1198	+ 16	245	+ 13
	9. IRELAND, NORTH -	67	42	61·2	49·8	55·1	3 below.	92	− 1	0	0	1052	+ 35	295	− 55
	10. IRELAND, SOUTH -	71	42	63·4	51·1	56·8	2 below.	104	+ 5	0	0	1242	+ 46	225	− 14
	— CHANNEL ISLANDS -	74	49	62·5	54·0	57·9	1 below.	111	+ 3	0	0	1371	+ 98	71	− 22

Rainfall.

Bright Sunshine.

	DISTRICTS. (See p. 152.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	10	2 more.	125	+14	23·5	− 0·3	30	25	591	−104	26	− 4
	1. SCOTLAND, EAST -	5	6	1 more.	106	+15	13·8	− 0·5	45	37	678	− 97	30	− 4
	2. ENGLAND, N.E. - -	5	3	2 less.	89	− 1	9·9	− 2·1	29	25	616	− 75	27	− 3
	3. ENGLAND, EAST -	4	6	1 more.	93	+ 2	10·3	− 0·9	44	38	808	− 42	36	− 1
	4. MIDLAND COUNTIES-	5	6	0 (average).	86	− 4	10·1	− 3·0	32	27	694	− 53	31	− 2
	5. ENGLAND, SOUTH -	4	7	2 more.	88	+ 2	12·2	− 0·4	38	33	753	− 38	33	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	5	9	2 more.	110	+ 9	23·8	− 0·9	33	28	701	− 29	31	− 1
	7. ENGLAND, N.W. - -	6	7	0 (average).	101	+ 9	14·7	− 0·1	33	28	662	− 74	29	− 3
	8. ENGLAND, S.W. - -	5	8	1 more.	104	+ 6	17·3	− 2·4	43	38	789	− 69	35	− 3
	9. IRELAND, NORTH -	5	8	2 more.	116	+ 4	15·1	− 1·1	31	26	707	− 11	31	0
	10. IRELAND, SOUTH -	5	8	2 more.	117	+11	21·2	+ 2·3	32	28	745	− 62	33	− 2
	— CHANNEL ISLANDS -	6	6	1 more.	109	+ 3	15·8	+ 0·8	40	36	927	− 88	41	− 4

General Remarks.

Weather was fair at many of our southern and eastern stations during the first few days of the period, but unsettled and showery in the west and north. As the week advanced the rainy conditions extended to all parts of the Kingdom and became more pronounced. During the 24th to 26th a thick wet fog was experienced at nearly all the Channel stations. Thunderstorms occurred in many parts of England on the 27th or 28th, as well as at some of the Scotch stations.

Temperature has been below the mean in all districts, the deficit having ranged from 1° in most of the English districts to 2° in Scotland, and 2° or 3° in Ireland. The highest of the maxima were registered in most districts either on the 24th or 25th, when the thermometer rose to 77° in "England E." and "S.," to 75° in the "Midland Counties" and "England S.W.," and to between 67° and 74° in most other districts. During the greater part of the week the daily maxima were very low for the time of year. The lowest of the minima were recorded in most places during the latter part of the week, and ranged from 36° in "Scotland E." and "W.," to 45° in "England S.," and to 49° in the "Channel Islands."

Rainfall has been less than the mean in "England N.E.," and has only equalled it in the "Midland Counties" and "England N.W.;" in all other parts of the Kingdom the normal amount has been exceeded.

Bright Sunshine has again been very little prevalent, the percentage of the possible amount having ranged from 25 in "Scotland N." and "England N.E." to 36 in the "Channel Islands," 37 in "Scotland E.," and 38 in "England E." and "England S.W.".

Barometer and Wind.—The barometer has been generally highest in the south-west and south, lowest in the north. No important depressions have passed immediately over our Islands, although shallow secondary disturbances have moved in an easterly direction over different portions of the country. During the night of the 24th to 25th, however, a deep but small depression appeared off the north of Scotland, causing severe gales from the Westward in the extreme north of Scotland and in the Shetland Isles, and fresh or strong winds from between South and West over all our more northern districts.

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36 350 7|90 607

III.—DATA from which the SUMMARY on page 151 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches	Inches.		
0. SCOTLAND, N.	Sumburgh Head	58	43	55·1	45·9	50·2	—2·2	57	0	6	1·05	+0·56	*	*
	Stornoway	61	43	58·0	46·9	52·1	—1·5	71	0	6	0·68	—0·02	40·8	33
	Wick	63	40	59·3	44·4	51·3	—2·4	65	0	7	0·37	—0·06	*	*
	Lairg ℌ	64	42	58·2	45·7	51·5	—1·7	67	0	7	0·99	+0·39	*	*
	Glencarron ℌ	62	43	57·9	? 45·3	? 51·2	?—2·1	? 64	0	6	1·64†	+0·31	?	?
	Fort Augustus ℌ	66	44	60·2	47·7	53·5	—2·3	81	0	6	1·29†	?	19·6	16
1. SCOTLAND, E.	Nairn	69	39	62·4	46·4	53·8	—2·2	83	0	5	0·56	+0·10	*	*
	Aberdeen	69	42	62·4	46·4	53·8	—2·5	83	0	5	0·35	—0·12	41·0	33
	Braemar ℌ	64	36	59·0	44·4	51·2	—2·3	64	0	4	0·65	+0·04	44·3‡	36‡
	Ochtertyre ℌ	68	38	65·3	45·0	54·4	—1·9	87	0	4	1·13	+0·43	*	*
	Leith	67	42	63·9	47·7	55·2	—1·9	92	0	5	0·57	+0·11	*	*
	Marchmont ℌ	68	42	63·0	47·6	54·8	—0·7	90	0	5	0·48	—0·17	49·3	41
2. ENGLAND N.E.	Alnwick Castle	68	43	63·0	48·6	55·3	—1·2	93	0	4	0·27	—0·20	*	*
	Durham	73	42	67·9	48·6	57·6	+0·1	109	0	6	0·19	—0·31	36·3	31
	Shields	70	45	63·7	49·0	55·8	—1·4	97	0	5	0·56	+0·11	*	*
	Scarborough ℳ	71	44	64·1	50·8	57·0	—0·6	105	0	4	0·46	—0·09	24·6‡	21‡
	York	70	47	65·9	50·7	57·8	—1·2	111	0	4	0·14	—0·44	26·2	22
	Spurn Head	66	50	62·1	53·3	57·4	—0·2	108	0	4	0·39	?	*	*
3. ENGLAND, E.	Hillington ℳ	74	42	68·9	49·9	58·7	—0·2	117	0	5	0·93	+0·36	37·1	32
	Yarmouth	75	48	65·7	54·4	59·7	+0·4	124	0	4	0·70	+0·20	*	*
	Geldeston	77	46	69·0	52·0	59·9	+0·9	125	0	4	0·69	+0·28	49·8	43
	Cambridge	77	49	70·7	53·1	61·3	+0·2	135	0	4	0·56	0·00	?	?
	Rothamsted	75	48	68·3	51·3	59·2	—1·7	120	0	5	0·59	+0·05	*	*
	Ingatestone	75	46	67·9	51·5	59·1	—2·3	120	0	4	0·35	—0·19	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	70	44	66·7	51·1	58·4	—1·0	115	0	4	0·49	—0·11	25·6‡	22‡
	Loughborough	74	44	69·6	52·4	60·4	0·0	129	0	5	0·32	—0·23	35·1‡	30‡
	Cheadle ℳ	67	45	64·1	49·1	56·1	—2·6	99	0	6	0·61	—0·10	*	*
	Churchstoke ℳ	70	45	65·6	50·1	57·3	—1·0	107	0	3	0·59	+0·05	30·6	26
	Hereford ℳ	73	47	68·9	52·0	59·9	—0·1	125	0	4	0·54	+0·02	*	*
	Cirencester	72	45	67·1	50·3	58·1	—1·1	113	0	5	0·66	+0·04	33·5	29
	Oxford	75	50	68·9	53·0	60·4	+0·3	129	0	6	0·80	+0·25	32·9	29
5. ENGLAND, S.	London	77	48	69·9	53·1	60·9	—0·9	132	0	6	0·88	+0·40	35·1‡	31‡
	Strathfield Turgiss ℳ	77	45	70·1	51·3	60·1	+0·7	127	0	4	1·08	+0·59	*	*
	Dungeness	65	51	63·3	52·9	57·7	—2·4	110	0	2	0·09	—0·31	47·4	42
	Hastings (St. Leonards)	69	49	63·4	52·4	57·5	—2·0	109	0	3	0·33	—0·07	42·4	37
	Southampton	75	48	68·6	53·2	60·4	+0·3	129	0	5	0·79	+0·31	37·7	33
	Hurst Castle	69	52	64·0	54·3	58·8	—0·5	118	0	5	0·47	—0·02	*	*
	Stowell ℳ	71	45	66·2	51·0	58·1	—0·9	113	0	5	0·94	?	24·8‡	22‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	64	42	61·3	48·3	54·4	—1·7	87	0	5	1·33†	+0·08	*	*
	Glasgow	62	43	61·1	49·0	54·6	—1·8	88	0	6	0·74	+0·02	26·5	22
	Ardrossan	61	44	59·6	50·4	54·7	—2·0	89	0	3	0·54	—0·09	*	*
	Glenlee ℌ	67	36	62·6	46·4	53·9	—1·8	83	0	5	1·02†	+0·19	*	*
	Douglas (Isle of Man)	65	42	62·1	49·1	55·2	—1·4	92	0	4	0·62	+0·07	39·6	34
7. ENGLAND, N.W.	Newton Reigny	68	40	63·6	46·4	54·4	—2·4	87	0	6	0·41	—0·12	37·9	32
	Stonyhurst	65	47	62·7	50·9	56·4	—1·2	101	0	7	0·58	—0·30	26·4	22
	Blackpool ℳ	68	48	62·1	52·0	56·7	—2·0	103	0	6	0·96	+0·40	37·2	32
	Manchester	67	47	63·7	51·6	57·2	—2·1	106	0	5	0·42	—0·38	*	*
	Liverpool Obsy. (Bidston)	67	51	62·6	53·6	57·8	—1·4	111	0	5	0·67	+0·18	*	*
	Llandudno ℳ	67	51	63·3	52·6	57·6	—1·5	109	0	6	1·16	+0·67	29·3	25
	Holyhead	66	49	63·3	51·9	57·2	—0·5	106	0	5	0·33	—0·16	*	*
8. ENGLAND, S.W.	Llandovery	73	45	67·9	52·3	59·3	—0·1	121	0	7	1·04	+0·27	*	*
	Pembroke	60	49	58·6	53·0	55·6	—2·7	95	0	4	0·32	—0·18	42·1	37
	Arlington (N. Devon)	68	46	61·6	51·4	56·1	—3·1	99	0	6	1·14	+0·17	*	*
	Cullompton ℳ	75	41	68·3	51·7	59·4	—0·4	122	0	4	0·64	+0·03	42·9	38
	Falmouth	68	49	64·4	52·3	57·9	—1·3	111	0	3	0·70	+0·02	50·6	45
	Plymouth	72	53	67·6	55·3	61·0	+0·8	133	0	2	1·01	+0·52	35·3	31
	Prawle Point	66	51	61·1	52·9	56·7	—1·2	103	0	6	0·67	?	*	*
9. IRELAND, N.	Malin Head	60	48	58·4	50·6	54·2	—1·5	85	0	5	0·73	?	*	*
	Londonderry	66	48	62·3	49·7	55·8	—1·3	97	0	5	0·45	—0·20	*	*
	Mullaghmore	61	47	58·9	50·4	54·4	—3·9	87	0	5	1·65	+0·87	*	*
	Belmullet	59	47	57·9	51·1	54·3	—2·4	86	0	6	0·94	?	*	*
	Markree Castle	65	44	61·0	47·4	53·7	—4·8	82	0	5	0·70	—0·03	33·0	28
	Brookeborough	63	42	61·2	47·8	54·0	—4·7	84	0	7	1·18	?	*	*
	Armagh	66	47	63·4	49·1	55·8	—2·9	97	0	6	0·64	+0·09	27·9	24
	Donaghadee	66	50	63·9	53·4	58·3	+1·1	114	0	4	0·37	—0·12	*	*
	Edgeworthstown	67	44	63·4	48·6	55·5	—2·8	95	0	5	0·85	+0·05	*	*
10. IRELAND, S.	Dublin	68	47	64·5	51·9	57·7	—0·6	110	0	5	0·43	—0·05	29·6	26
	Parsonstown	67	44	63·7	49·9	56·3	—1·7	100	0	5	0·59	—0·01	29·7	26
	Kilkenny	66	44	63·0	50·9	56·5	—2·0	102	0	5	0·46	—0·07	*	*
	Waterford	71	44	65·3	50·9	57·6	—2·0	109	0	5	0·96	+0·36	*	*
	Roche's Point	69	49	64·4	52·9	58·3	—1·4	114	0	3	0·85	+0·10	*	*
	Valencia	65	48	61·0	51·9	56·1	—1·5	99	0	7	1·23	+0·39	36·2	31
	Killarney	67	42	63·2	49·7	56·0	—2·5	98	0	5	1·11	?	*	*
	Foynes	67	45	62·0	50·3	55·7	—1·8	96	0	5	0·86	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	62	53	60·9	54·6	57·5	—1·2	109	0	6	0·82	+0·35	*	*
	Jersey	74	49	64·1	53·3	58·3	—1·4	114	0	5	0·31	—0·14	40·3	36

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

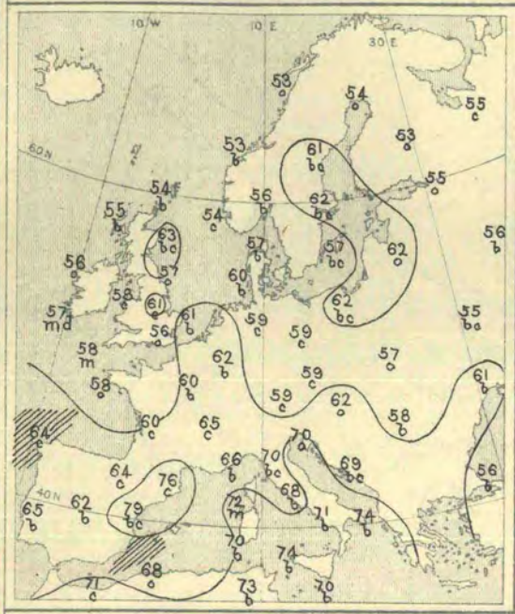
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 22nd June.

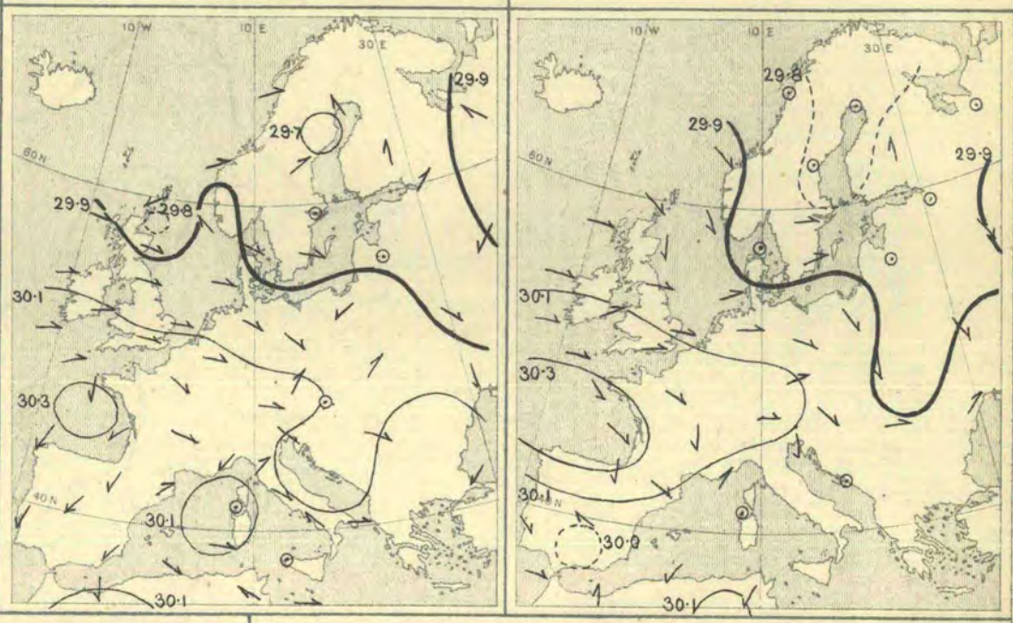
Temperature and Weather. 8 a.m.



Weather fine and bright over south-eastern and southern Europe and the Mediterranean, as well as in some parts of the British Islands and central France; cloudy and changeable elsewhere, with slight rain in the west of Ireland, and very heavy passing showers at Wick. Some showers during day in many parts of the United Kingdom—nearly half-an-inch of rain at Sumburgh Head; rain in some parts of the Netherlands, Germany, and Austria, and thunder in some localities.

Temperature low for the time of year. Morning readings exceeding 70° over the southern and eastern shores of the Mediterranean and the Adriatic, lower elsewhere; below 60° over nearly the whole of northern and eastern Europe. Lowest of all, 52° at Uleaborg, 53° in the north-west of Norway and at Kuopio. Not reaching 70° at our own or German stations during day, but rising to 82° at Lisbon and Rochefort, and 89° at Perpignan, as well as in Algeria. Remaining below 75° in most parts of Austria.

Barometer and Wind. 8 a.m. / 6 p.m.

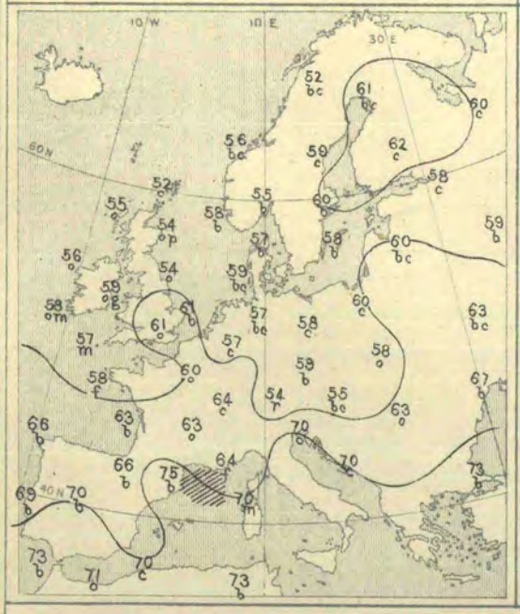


Wind moderate Westerly over the British Islands and North Sea, South-Westerly to Southerly over the Baltic Provinces and Finland, North-Easterly over Spain and the west of France, light and very variable elsewhere. No important change later so far as our Islands are concerned, but becoming more variable over Spain.

Barometer highest, 30·1 ins. to 30·3 ins., in a large anti-cyclone lying over western Europe and the neighbouring parts of the Atlantic. Lowest, 30·1 ins. and less, in a shallow depression lying over the Mediterranean, about 29·7 ins. in another over Sweden and the Gulf of Bothnia, and rather below 29·85 ins. in a small one over the North Sea, near Wick. Latter system filling up later, and a shallow system appearing locally over the South-East of Spain; hardly any change elsewhere.

Monday, 23rd June.

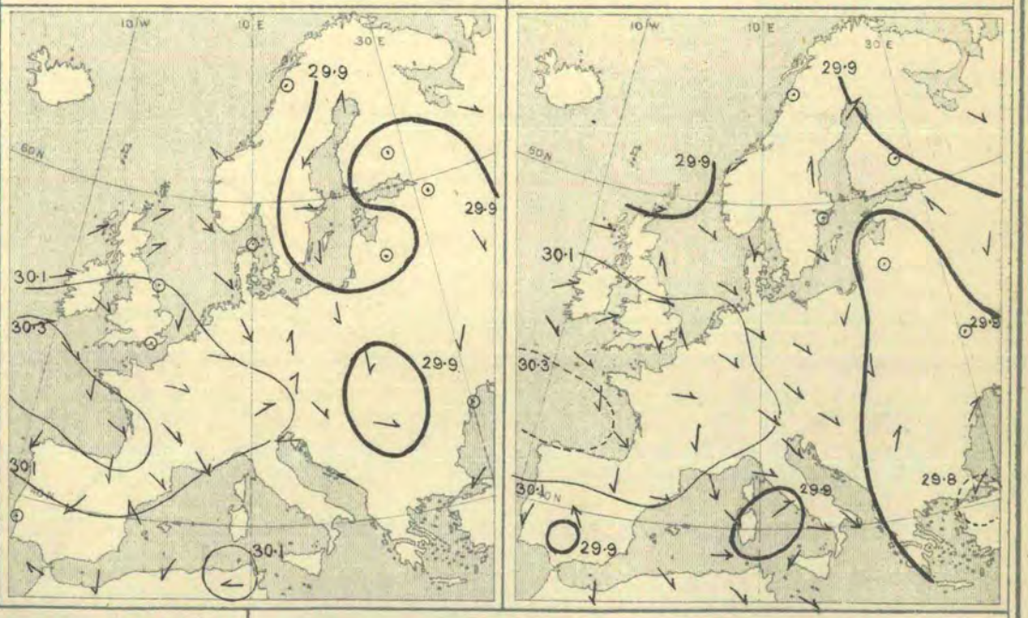
Temperature and Weather. 8 a.m.



Weather fine and bright over Scandinavia, on the shores of the Black Sea, in Algeria, and in Spain; cloudy and unsettled elsewhere, especially over the British Islands, where sky was dull generally and air damp and close. Little change later; air in London muggy, with dark damp fog, finer in evening.

Temperature risen somewhat over Russia; still low for time of year in most places. Morning readings above 70° at Mediterranean stations and Madrid, above 60° over France, the south-east of England, and several parts of Russia; as low as 52° at Bodö, Sumburgh Head, and Wick, 53° at Warsaw, 54° at Aberdeen, Shields, Breslau, and Cracow. Rising during day to between 68° and 72° over England, to 72° at Wiesbaden and Brussels, to 84° at Lisbon, and to 85° at Perpignan and some parts of Italy; to upwards of 90° at Madrid, and to more than 100° Faht. over central Algeria.

Barometer and Wind. 8 a.m. / 6 p.m.



Wind light from South-West in Ireland and Scotland, from North-West over England and France, fresh from North-East over Spain, Northerly over Scandinavia, North-Westerly over Holstein, South-Westerly to Southerly over the Baltic Provinces; very variable elsewhere. Backing a little over England later.

Barometer highest, 30·1 ins. to 30·3 ins. and more, in anti-cyclonic system lying over Ireland, England, Spain, France, the Bay of Biscay, and adjacent parts of the Atlantic. Lowest, 30·0 ins. and less, off our extreme north-western and northern coasts, 29·9 ins. and less over Sweden, the northern parts of the Baltic and Baltic Provinces, as well as over Austria-Hungary, 30·0 ins. and less over the Gulf of Genoa. Gradients slight to moderate and irregular. Little change later, beyond a tendency to reduced pressure over the southern half of Spain. Hungarian depression filling up.

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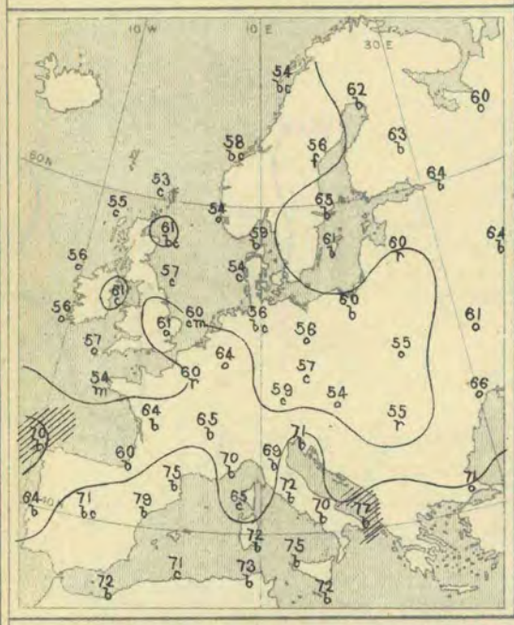
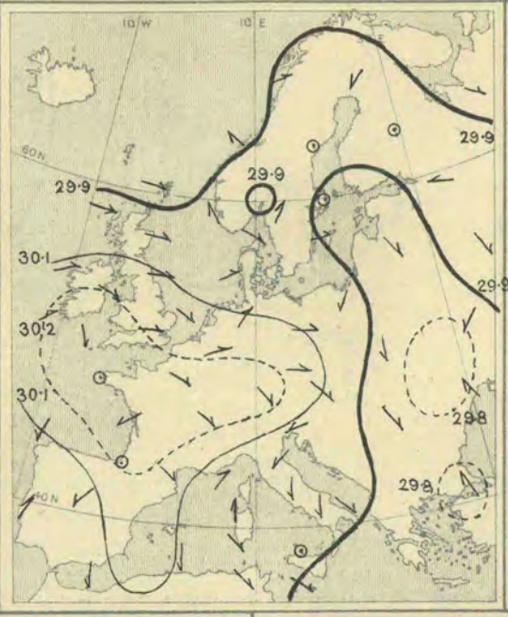
Tuesday, 24th June.

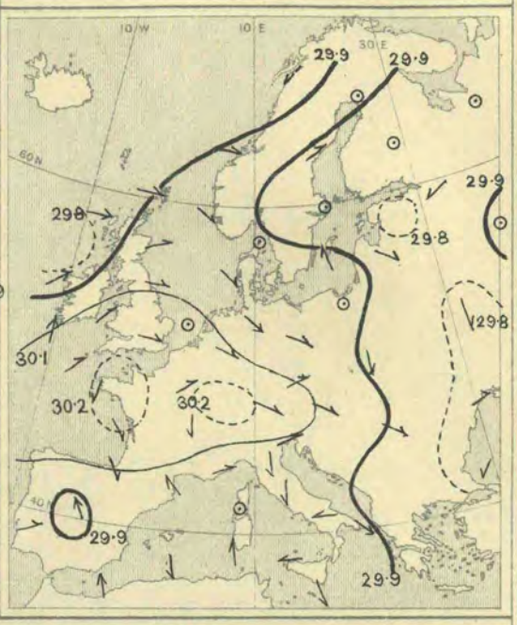
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Spain and the Mediterranean, also over the east of France, central Russia, Finland, and Sweden; cloudy or overcast in most other places; rain at Riga. Rain in many parts of the British Islands later, but amounts small, except in the extreme west and north. Considerable falls, 0·4 in. at Cuxhaven, 0·9 in. at Hermanstadt, and 1·0 in. at Odessa; showers over central Europe generally. Sky clearing over England towards night.

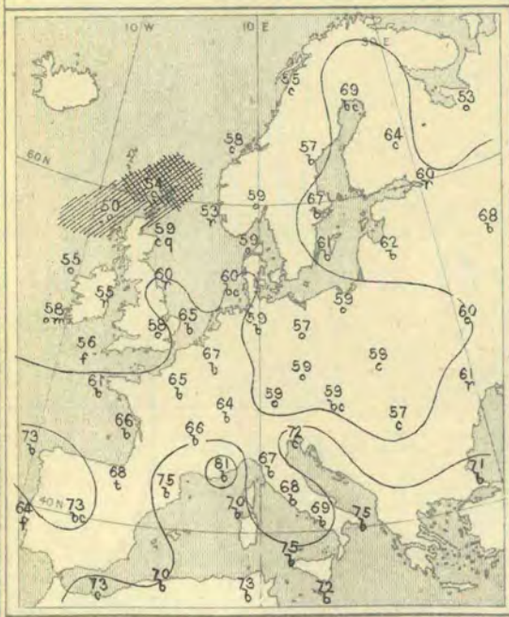
Temperature showing a further increase over Russia, and also in some parts of the British Islands. Morning readings exceeding 70° over Spain, the Mediterranean shores, and at Constantinople, and exceeding 60° in many other places; below 60° over central Europe, as well as in Ireland, Scotland, Norway, and Denmark. Rising during day to between 70° and 76° over England, to upwards of 80° in many parts of France and Italy, as well as at Cuxhaven, to 96° at Madrid, to 99° at Laghonat, and to 111° at Biskra (Algeria).

Wind Westerly in the north of our Islands, over the North Sea, Denmark, the south of Sweden, and north Germany; North-Westerly over the south of England, south Germany, and Austria; Northerly to North-Easterly over Spain and the west of France; South-Westerly to Southerly in Ireland. Increasing considerably from the Southward in Ireland later, to a slight gale at the north-western stations. No important change elsewhere.

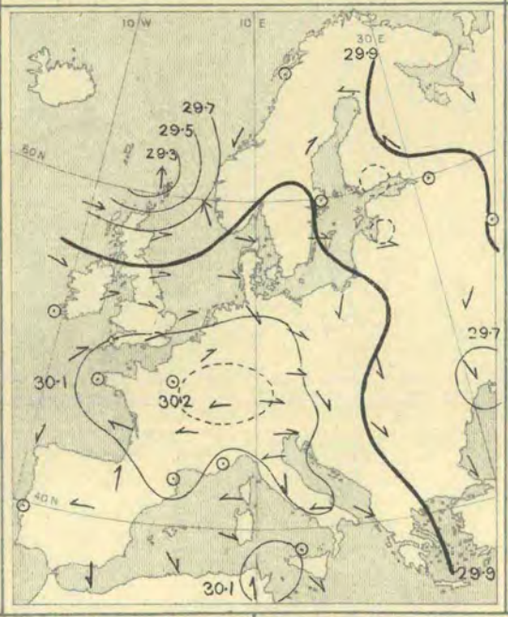
Barometer highest, 30·1 ins. to 30·3 ins., in an anti-cyclone of irregular form lying over England, Ireland, and France, and exceeding 29·9 ins. over Russia, the Baltic, Denmark, Scandinavia, and the north of Scotland. Lowest, 29·8 ins. and less, over Hungary and the south-west of Russia, 29·9 ins. and less over the Shetlands and the west of Norway, as well as over the south-eastern parts of the Mediterranean. Decided fall in the north-west of our Islands later, owing to the advance of new depression to those regions from Atlantic.

Wednesday, 25th June.

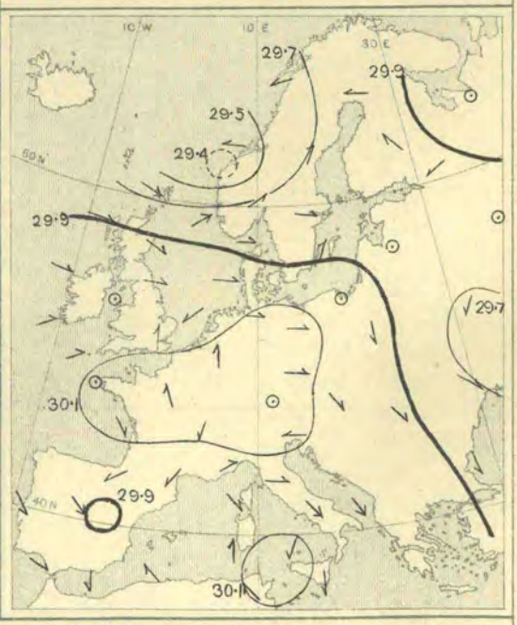
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine generally over the Netherlands, France, and the Mediterranean, as well as in many parts of Spain; unsettled elsewhere, with rain in several parts of Ireland, Norway, and Russia; much fog throughout the English Channel, thunder at Biarritz. Rain later in many portions of the British Islands, Norway, and Russia—heavy at Scilly, Skudesnaes, and over southern Russia, considerable over the south-east of England; weather over France and Germany fair as a whole.

Temperature changing irregularly. Morning readings as high as 81° at Bilbao and Nice, and exceeding 70° at nearly all the Mediterranean stations and Constantinople. Exceeding 60° over Russia and many parts of France and England, lower elsewhere; as low as 50° at Stornoway, 51° at Münster, 53° at Malin Head, Skudesnaes, and Archangel. Rising to between 70° and 77° over England later, to upwards of 80° in several parts of Italy, France, and Spain, to 90° at Biarritz, and to slightly higher in some portions of Algeria.

Wind, as a whole, light; Easterly over the Mediterranean and west of France, Westerly and South-Westerly over Ireland, England, and the southern parts of the North Sea, North-Westerly to Northerly over central Europe. Severe Westerly gale, however, prevailing in the extreme north of Scotland, but apparently not felt south of the Grampians. Gale afterwards spreading to the Shetland Islands, with great force, while Easterly airs were felt in north-west of Norway.

Barometer highest, 30·0 ins. to 30·2 ins. and more, in a large but not well-formed anti-cyclone, covering the southern parts of Ireland and England, and the whole of Spain, the Mediterranean, France, and Germany. Lowest, 29·3 ins. and less, in a rather small but deep and well-defined depression lying near the Shetland Islands, 29·7 ins. and less in another disturbance over southern Russia. Depression in north moving north-eastwards later, that in the south of Russia moving very little. Barometer rising fast in Scotland, falling slightly over Ireland and England.

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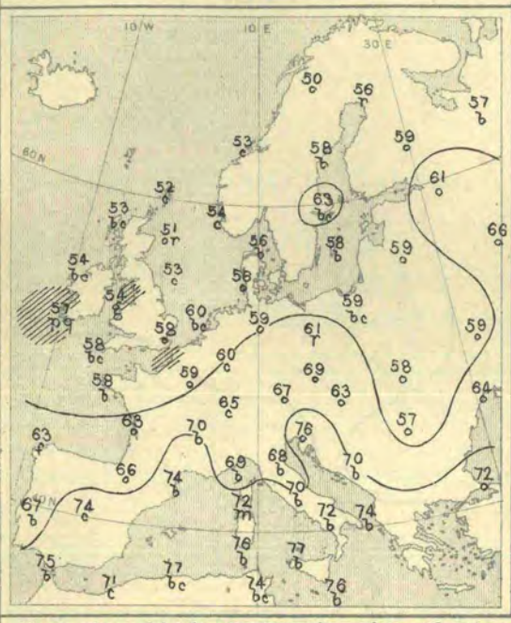
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 26th June.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.

Weather fine and bright over Spain, the southern and eastern parts of the Mediterranean, as well as in many parts of France and South Germany; very changeable and unsettled elsewhere—rainy over southern Russia, Norway, and a great many parts of England. Rain falling very generally later, except in Austria, Italy, the south of France, and on our south-west coasts, amounts considerable to the eastward of the North Sea, thunderstorms occurring at the central French stations, and also at Nairn.

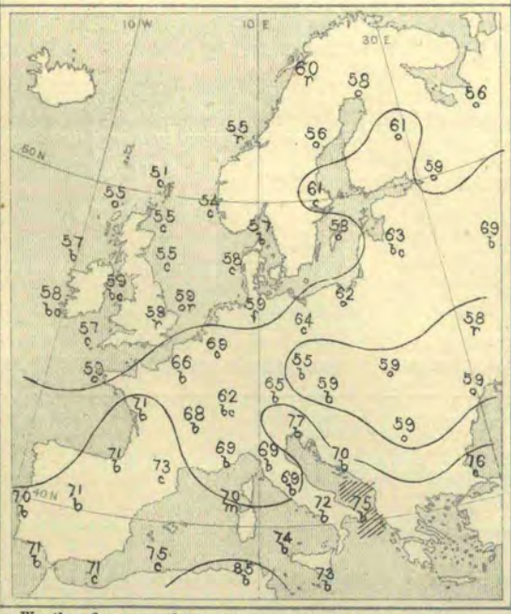
Temperature changing little and irregularly; morning readings exceeding 80° at some Algerian stations, and exceeding 70° over Spain, the Mediterranean, and Adriatic. Exceeding 60° at many of the French, German, and Russian stations, lower elsewhere. Lowest readings, 51° at Sumburgh Head, 54° at Skudesnaes and Malin Head, and 55° at Christiansund, Faerder, and in many parts of Scotland. Rising during the day to 70° and more in many parts of England, to between 80° and 95° over France, Italy, and south Germany, and to more than 100° Faht. in some parts of Algeria.

Wind very variable over Spain, the Mediterranean, France, and Germany, and chiefly South-Westerly over the United Kingdom. Cyclonic circulation (with Westerly gales) over Scandinavia and the Baltic, another one of light winds over southern Russia. Not much change later, excepting a veering towards West over England.

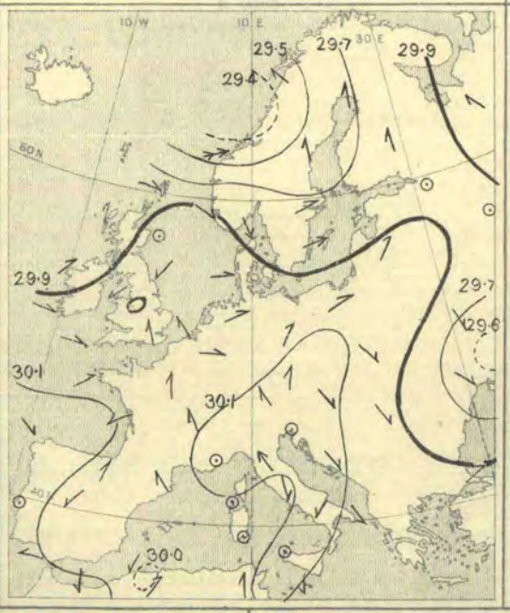
Barometer highest, 30·0 ins. to nearly 30·2 ins., in a complex system covering south-western and central Europe, and exceeding 29·9 ins. over the north-east of Russia. Lowest, 29·5 ins. and less, in a depression off the north-west of Norway, about 29·6 ins. over southern Russia, and apparently about 29·8 ins. in a new complex disturbance approaching the west of Scotland. A small and very shallow disturbance prevailing over Cheshire and Stafford. Norwegian depression passing quickly to the north-eastward later, that off our north-west coasts spreading south-eastwards over the United Kingdom in the form of a "hollow," while the small disturbance over England passed eastwards to the Helder.

Friday, 27th June.

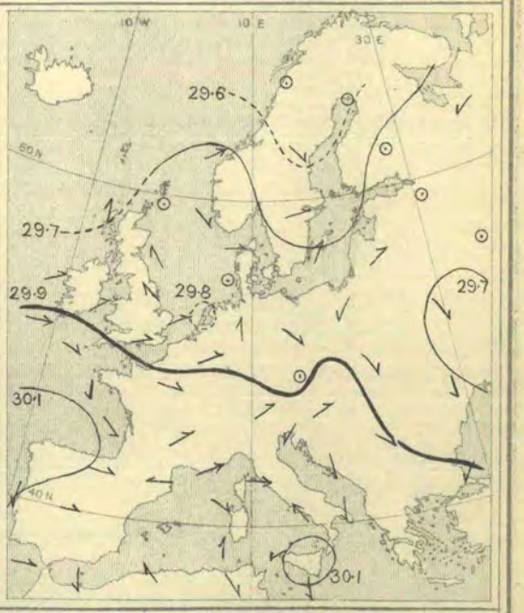
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of England, as well as over Sweden, the northern parts of Denmark, and France, and the whole of southern Europe. Dull elsewhere, with rain in Germany and the east of Scotland, as well as at Haparanda, Uleaborg, and Copenhagen, and passing showers at some of the Irish stations. Rain falling later in nearly all parts of central and north-western Europe, and thunderstorms occurring in the north-east of England, as well as at some of the French stations.

Temperature highest, 82° at Parma, 78° at Barcelona, and 77° at Palermo, Algiers, and La Calle; above 70° over southern Europe generally, and as high as 66° at Moscow. Lowest, 49° at Nairn, 50° at Bodö, 51° at Wick, Aberdeen, and Malin Head, and 52° at Sumburgh Head. Below 55° in nearly all the more northern parts of the United Kingdom, and also in the west of Norway. Subsequently rising to between 65° and 70° over the inland parts of England, and to 80° or more over the central and southern parts of France. Exceeding 100° in Algeria, the highest reading of all being 108° at Biskra.

Wind moderate to fresh from the Westward over England and Ireland, and light from the same quarter in France; light from the South-Westward over Germany, Denmark, and the Netherlands, and from the Southward in Finland and central Russia. Northerly in the north and east of Scotland, as well as over Spain and the southern parts of Norway and Russia; variable in Italy and Algeria. Strong North-Westerly wind setting in later on the west coast of Norway, but no important change occurring elsewhere.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying over the Bay of Biscay, Portugal, and the north of Spain, 29·8 ins. and upwards over northern Russia. Lowest, 29·6 ins. and less, in an irregularly-formed depression lying over Scotland, and also in another system over Lapland. Scotch disturbance subsequently travelling eastwards. Small secondary depressions passing across Ireland and England.

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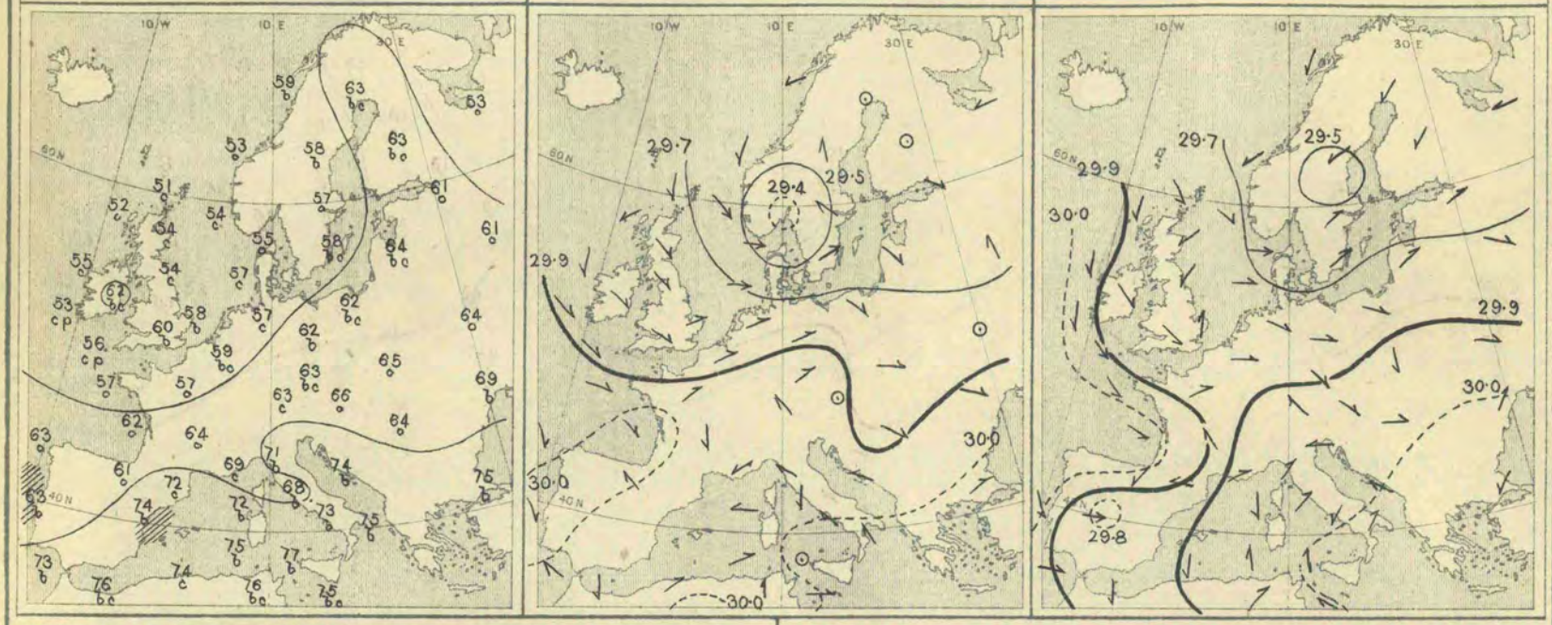
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 28th June.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather fine over Germany and the north of Scandinavia, as well as over the greater part of southern and eastern Europe, and fair in many of the western countries, showery at some of the English and Irish stations. Dull in Austria, Denmark, and the south of Scandinavia. Heavy showers falling later in many parts of western Europe, and thunderstorms occurring in some parts of England.

Temperature highest, 78° at Aumale, 77° at Leghorn and Palermo, 76° at Oran and Tunis, and 75° at Cagliari, Malta, and Constantinople; above 70° over southern and eastern Europe generally. Lowest, 51° at Faerder, Sumburgh Head, Nairn, and Malin Head, and 52° at Stornoway, Leith, Ardrossan, and Parsonstown. Daily maxima below 60° at many of our northern stations, but thermometer rising above 60° in most parts of the Continent, and exceeding 80° in Italy, Spain, and Algeria.

Wind light from the Northward over the northern parts of the United Kingdom, and moderate from the North-Westward over the south-west of our Islands and the west of France. Westerly over the Netherlands, Germany, and the south-east of England; variable over the greater part of southern Europe, and also in Russia. Cyclonic circulation reported over Scandinavia. Westerly winds strong in south; subsequently shifting to the Northward in most parts of the United Kingdom.

Barometer highest, 30·0 ins. and upwards, over the Bay of Biscay and the western parts of the Iberian Peninsula, as well as over Turkey, Greece, and the south of Italy. Lowest, 29·4 ins. and less, in a depression lying over the south of Scandinavia, shallow secondary disturbance over the north-west of our Islands. Scandinavian depression subsequently moving eastwards; secondary system travelling south-eastwards across the United Kingdom.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week barometric pressure was continuously highest over the south-western parts of Europe and the adjacent portions of the Atlantic, lowest over the northern, eastern, and central countries, where the distribution of pressure was very irregular, owing to the presence of several depressions of small area and little depth. Early on Wednesday, however, a small disturbance, unusually deep for the time of year, arrived off the north of Scotland, and, travelling north-eastwards, disappeared in the direction of Lapland on the following day. Westerly gales of exceptional force were caused by this disturbance in the Shetlands, Orkneys, and the north of Scotland, and less severe gales in the west of Norway. The wind, however, was not strong to the southward of the Grampian Hills, nor was there much rain with the storm.

Towards the end of the week the high-pressure area in the south-west appeared to be giving way, and unsettled, rainy, thundery weather was spreading more generally over our Islands and their neighbourhood.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 27.] *Third Series.* WEEK ENDING SATURDAY, 5TH JULY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 158.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	64	36	57·7	45·2	51·1	3 below.	64	− 8	0	0	825	+117	438	− 72*
	1. SCOTLAND, EAST -	69	38	59·4	46·5	52·5	4 below.	74	−21	0	0	986	+ 9	485	− 58
	2. ENGLAND, N.E. - -	67	43	59·3	48·1	53·4	5 below.	80	−23	0	0	1032	+ 7	389	− 93
	3. ENGLAND, EAST -	69	41	62·9	48·4	55·2	6 below.	92	−22	0	0	1214	− 21	468	− 39
	4. MIDLAND COUNTIES	68	37	63·1	46·8	54·4	6 below.	87	−26	0	0	1224	− 35	478	− 26
	5. ENGLAND, SOUTH -	70	42	63·5	49·3	55·9	5 below.	97	−24	0	0	1324	− 19	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	65	41	60·6	48·2	54·0	3 below.	84	−14	0	0	1076	+ 31	325	− 73
	7. ENGLAND, N.W. -	65	36	60·4	48·7	54·2	5 below.	85	−20	0	0	1133	+ 30	302	− 81
	8. ENGLAND, S.W. -	70	38	61·3	48·3	54·3	6 below.	86	−25	0	0	1284	− 15	245	+ 12
	9. IRELAND, NORTH -	71	39	60·2	47·9	53·6	5 below.	81	−17	0	0	1133	+ 7	295	− 55
	10. IRELAND, SOUTH -	67	38	61·0	48·4	54·3	5 below.	86	−19	0	0	1328	+ 18	225	− 14
	— CHANNEL ISLANDS -	62	50	59·5	51·9	55·4	5 below.	94	−20	0	0	1465	+ 71	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 158.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	4	2	4 less.	129	+13	24·0	− 0·7	28	23	619	−109	26	− 4
	1. SCOTLAND, EAST -	5	7	1 more.	111	+15	14·5	− 0·4	24	20	702	−107	29	− 4
	2. ENGLAND, N.E. - -	6	14	8 more.	95	+ 2	11·3	− 1·2	26	22	642	− 91	27	− 3
	3. ENGLAND, EAST -	6	13	8 more.	99	+ 4	11·6	− 0·2	35	31	842†	− 63	35	− 3
	4. MIDLAND COUNTIES-	5	9	3 more.	91	− 3	11·0	− 2·7	36	31	730	− 65	31	− 2
	5. ENGLAND, SOUTH -	6	18	14 more.	94	+ 4	14·0	+ 0·9	31	28	784	− 58	33	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	4	8	1 more.	114	+ 8	24·6	− 0·9	40	34	741	− 24	31	− 1
	7. ENGLAND, N.W. - -	5	10	3 more.	106	+ 9	15·7	+ 0·2	36	1	698	− 77	29	− 3
	8. ENGLAND, S.W. - -	5	11	5 more.	109	+ 6	18·4	− 2·0	35	31	824	− 81	35	− 3
	9. IRELAND, NORTH -	6	7	0 (average).	122	+ 5	15·8	− 1·1	45	38	752	+ 11	31	0
	10. IRELAND, SOUTH -	5	6	0 (average).	122	+11	21·8	+ 2·2	34	29	779	− 55	33	− 2
	— CHANNEL ISLANDS -	6	19	14 more.	115	+ 4	17·7	+ 2·2	30	27	957	−110	40	− 4

General Remarks.

Weather has continued cold, wet, and very unseasonable in all parts of the Kingdom. Rain has fallen almost daily, accompanied at times by thunder and lightning; the rainfall on the 4th and 5th was unusually heavy over some of the southern and south-eastern counties.

Temperature has again been below the mean, the deficit having ranged from 3° or 4° in Scotland, to 5° in Ireland, and to 5° or 6° over England. The highest of the maxima were recorded on somewhat irregular dates, and varied from 62° in the "Channel Islands" and 64° in "Scotland N.," to 70° in "England S." and "S.W." and to 71° in "Ireland N." In many instances the daily maxima were below 60°, except at our southern and south-western stations. The lowest of the minima, which were registered either on June 29th or July 4th, ranged from 36° in "Scotland N." and "England N.W.," and 37° in the "Midland Counties," to 43° in "England N.E." and to 50° in the "Channel Islands."

Rainfall has been less than the mean in "Scotland N." and about equal to it over Ireland; in all other parts of the Kingdom, however, an excess is shown, that in "England S." and the "Channel Islands" being very striking. The amount collected during the night of the 4th to 5th was more than an inch at several of our southern and south-eastern stations, while at Lynsted (Sittingbourne) as much as 3·59 ins. fell between 3 a.m. and 5 p.m. on the 5th.

Bright Sunshine has continued very deficient generally, the percentage of the possible amount having ranged from 20 in "Scotland E." to 34 in "Scotland W." and 38 in "Ireland N."

Barometer and Wind.—Barometrical pressure over our Islands has been subject to frequent and considerable changes, and the winds have varied considerably both in direction and velocity. Several depressions have passed over us, the most notable systems being that which moved east-south-eastwards over Ireland and England during Monday and Tuesday, and the small well-defined disturbance which passed east-north-eastwards up the English Channel during the night of the 4th–5th. This depression brought very strong winds between East and North to our southern and south-eastern districts, accompanied by the heavy rainfall noted above.

* The corresponding value for the weeks ending June 21st and 28th should read "72." † This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 157 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head S	57	43	56·0	46·0	50·7	—2·2	61	0	4	0·27	—0·21	*	*
	Stornoway S	62	42	57·1	46·6	51·5	—2·4	67	0	4	0·11	—0·59	33·3	27
	Wick S	59	37	57·1	42·1	49·1	—5·4	50	0	4	0·20	—0·25	*	*
	Lairg S	61	39	57·6	43·9	50·3	—3·6	58	0	4	0·19	—0·49	*	*
	Glencarron S	62	36	59·0	44·8	51·4	—2·4	66	0	4	0·25†	—1·11	?	?
	Fort Augustus S	64	41	59·6	47·8	53·3	—3·2	79	0	4	0·38†	?	21·8	18
1. SCOTLAND, E.	Nairn S	63	44	60·7	47·4	53·6	—3·3	81	0	3	0·24	—0·25	*	*
	Aberdeen S	60	44	57·4	47·3	52·0	—4·8	70	0	7	0·25	—0·24	21·9	18
	Braemar S	60	38	56·7	44·7	50·3	—4·0	58	0	5	0·44	—0·18	29·5‡	24‡
	Ochtertyre S	69	44	63·1	47·1	54·5	—2·7	88	0	5	1·38	+0·66	*	*
	Leith S	65	45	60·3	46·4	52·9	—5·3	76	0	7	0·58	+0·06	*	*
	Marchmont S	65	44	58·1	46·0	51·6	—4·4	67	0	5	1·30	+0·59	21·8	18
2. ENGLAND, N.E.	Alnwick Castle	58	45	56·9	48·4	52·4	—4·7	73	0	7	1·58	+1·08	*	*
	Durham	67	43	61·4	45·8	53·1	—5·4	78	0	5	1·85	+1·32	20·4	17
	Shields	60	43	57·7	47·4	52·2	—5·8	71	0	6	1·31	+0·82	*	*
	Scarborough M	60	44	58·2	48·2	52·9	—5·7	76	0	7	1·40	+0·80	26·2‡	22‡
	York	65	45	62·1	48·1	54·6	—5·5	88	0	5	1·40	+0·82	31·1	27
	Spurn Head	64	48	59·6	50·9	55·0	—4·0	91	0	5	0·68	?	*	*
3. ENGLAND, E.	Hillington M	68	41	63·6	48·5	55·5	—4·2	95	0	7	0·91	+0·32	34·3	30
	Yarmouth	62	45	59·6	49·9	54·4	—6·1	87	0	6	1·73	+1·21	*	*
	Geldeston	66	43	62·1	47·8	54·5	—5·5	88	0	7	1·48	+1·03	39·4	35
	Cambridge	69	44	65·1	48·0	56·0	—6·2	98	0	6	1·05	+0·51	32·1	28
	Rothamsted	68	47	64·0	48·5	55·7	—5·9	96	0	5	1·19	+0·63	*	*
	Ingatestone	69	44	63·1	47·5	54·8	—7·2	90	0	6	1·47	+0·93	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	66	43	63·1	47·9	55·0	—5·4	91	0	5	0·84	+0·22	29·7‡	26‡
	Loughborough	68	47	64·0	49·0	56·0	—5·4	98	0	6	1·28	+0·75	26·8‡	23‡
	Cheadle M	63	43	60·3	46·2	52·8	—6·8	76	0	5	1·14	+0·43	*	*
	Churchstoke M	65	38	60·8	43·1	51·3	—7·7	65	0	5	0·45	—0·10	41·9	36
	Hereford M	68	42	64·8	47·0	55·3	—5·6	93	0	4	0·81	+0·29	*	*
	Cirencester	67	37	63·7	45·6	54·0	—6·0	84	0	5	0·63	—0·01	40·8	36
	Oxford	67	45	64·7	49·1	56·4	—4·2	101	0	5	0·95	+0·38	39·2	34
5. ENGLAND, S.	London	69	45	64·4	49·0	56·2	—6·4	99	0	6	1·96	+1·47	28·8‡	25‡
	Strathfield Turgiss M	70	42	66·1	48·5	56·7	—3·6	103	0	5	1·41	+0·91	*	*
	Dungeness	65	44	61·7	50·0	55·4	—5·3	94	0	6	1·95	+1·55	28·7‡	25‡
	Hastings (St. Leonards)	63	47	61·1	50·0	55·2	—4·9	92	0	6	3·08	+2·67	43·8	39
	Southampton	70	45	66·5	49·8	57·5	—3·0	109	0	6	1·05	+0·55	46·1	41
	Hurst Castle	65	47	63·6	51·0	56·9	—3·0	104	0	5	0·98	+0·49	*	*
	Stowell M	63	42	61·1	46·8	53·5	—6·1	81	0	6	2·40	?	9·0‡	8‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	65	41	60·8	48·0	54·0	—2·6	84	0	3	0·36†	—0·94	*	*
	Glasgow	65	44	60·5	48·5	54·1	—2·9	85	0	5	1·05	+0·29	28·1	23
	Ardrossan	64	44	60·7	49·9	54·9	—2·4	90	0	5	0·85	+0·20	*	*
	Glenlee S	64	41	59·6	45·9	52·3	—4·2	72	0	5	1·33†	+0·46	*	*
	Douglas (Isle of Man)	63	45	61·3	48·8	54·6	—2·3	88	0	4	0·35	—0·25	52·1	45
7. ENGLAND, N.W.	Newton Reigny	63	36	59·1	44·6	51·4	—6·1	66	0	6	0·96	+0·37	27·8	23
	Stonyhurst	63	44	59·8	47·9	53·4	—5·0	80	0	7	1·16	+0·22	37·5	32
	Blackpool M	62	45	60·4	49·4	54·5	—4·9	88	0	6	1·29	+0·61	33·8	29
	Manchester	64	43	60·6	46·7	53·2	—6·4	78	0	6	1·59	+0·74	*	*
	Liverpool Obsy. (Bidston)	63	49	60·7	50·3	55·1	—4·8	92	0	5	0·76	+0·18	*	*
	Llandudno M	63	50	61·1	50·9	55·7	—4·0	96	0	3	0·58	+0·03	45·7	39
	Holyhead	65	47	61·4	50·9	55·8	—2·8	97	0	4	0·29	—0·21	*	*
8. ENGLAND, S.W.	Llandovery	70	40	65·1	45·7	54·7	—5·2	89	0	6	0·76	—0·04	*	*
	Pembroke	59	47	58·7	50·4	54·3	—4·9	86	0	4	0·51	+0·01	46·8	41
	Arlington (N. Devon)	62	42	59·3	46·7	52·6	—7·6	74	0	6	1·53	+0·53	*	*
	Cullompton M	66	38	62·9	46·2	54·0	—6·7	84	0	6	1·62	+1·00	28·9	26
	Falmouth	63	48	59·3	49·8	54·2	—5·7	85	0	6	1·30	+0·62	33·0	29
	Plymouth	68	46	62·9	50·1	56·1	—4·9	99	0	4	1·15	+0·62	30·1	27
	Prawle Point	63	46	60·0	49·1	54·2	—4·2	85	0	4	1·10	?	*	*
9. IRELAND, N.	Malin Head	60	47	57·0	49·9	53·2	—3·0	78	0	5	0·65	?	*	*
	Londonderry	71	47	62·0	49·4	55·3	—1·3	93	0	6	0·99	+0·29	*	*
	Mullaghmore	63	45	59·4	49·4	54·1	—4·9	85	0	5	0·41	—0·41	*	*
	Belmullet	61	45	57·7	48·9	53·0	—4·0	77	0	5	0·57	?	*	*
	Markree Castle	63	40	59·9	46·3	52·6	—6·7	74	0	6	0·63	—0·11	45·3	39
	Brookeborough	65	39	60·6	45·3	52·4	—7·0	73	0	6	0·49	?	*	*
	Armagh	63	42	61·7	45·8	53·2	—6·1	78	0	6	0·91	+0·30	43·6	37
	Donaghadee	64	49	61·6	51·1	56·0	—1·7	98	0	5	0·77	+0·26	*	*
	Edgeworthstown	67	39	61·7	45·3	52·9	—6·3	76	0	6	0·73	—0·08	*	*
10. IRELAND, S.	Dublin	65	44	61·9	48·0	54·5	—4·7	88	0	7	0·76	+0·28	41·0	35
	Parsonstown	67	39	61·9	45·9	53·3	—5·4	79	0	6	0·66	+0·04	31·0	27
	Kilkenny	65	43	62·3	47·3	54·3	—5·0	86	0	4	0·34	—0·19	*	*
	Waterford	67	43	64·0	47·4	55·1	—5·0	92	0	4	0·31	—0·30	*	*
	Roche's Point	63	48	59·9	50·0	54·6	—5·6	88	0	4	0·55	—0·19	*	*
	Valencia	62	46	59·7	50·6	54·8	—3·4	90	0	4	1·07	+0·20	29·8	26
	Killarney	62	38	58·8	48·2	53·1	—5·9	78	0	5	0·79	?	*	*
	Foynes	61	? 45	? 59·6	? 49·7	? 54·3	?—4·2	? 86	0	4	? 0·36	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	60	50	58·0	51·6	54·6	—5·1	88	0	5	1·20	+0·71	*	*
	Jersey	62	50	61·0	52·1	56·2	—4·5	99	0	7	2·57	+2·09	30·4	27

Stations marked M are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

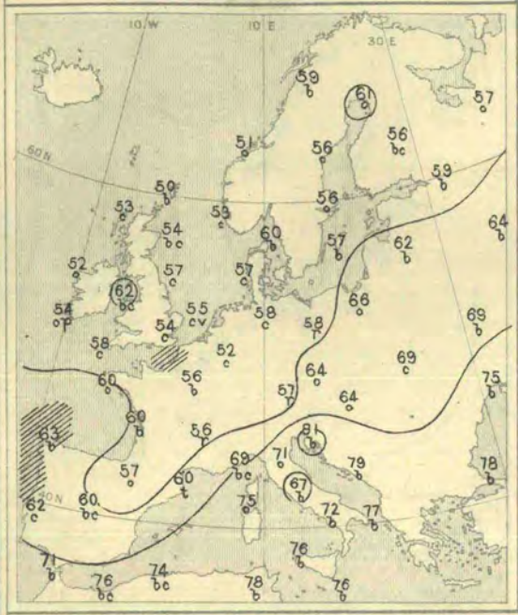
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

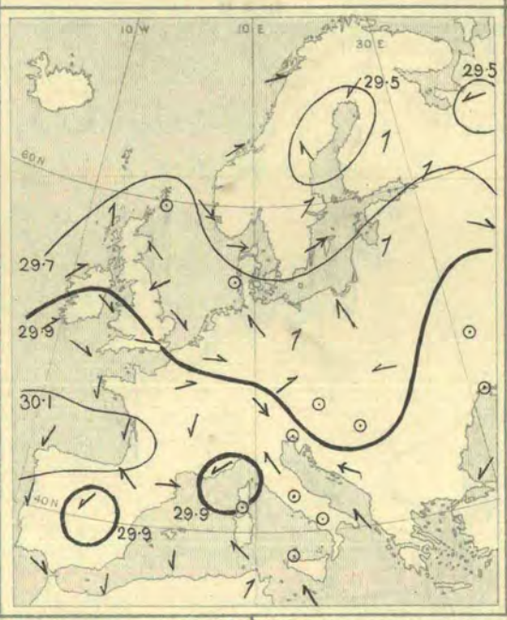
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 29th June.

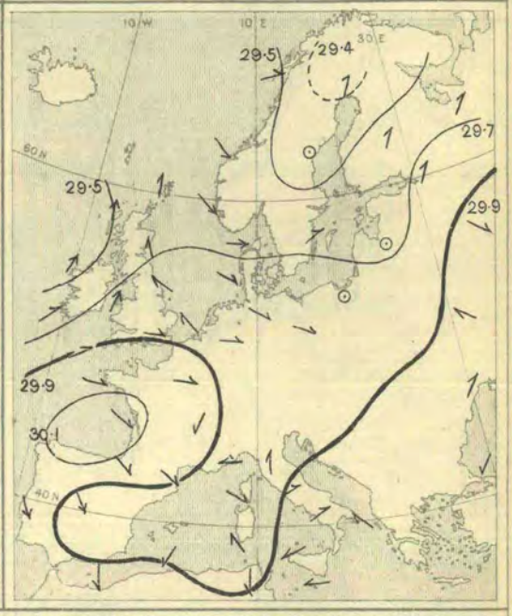
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of Europe, but showery at one or two of our own stations, and rainy in several parts of Germany and the east of France. Thunder reported at the Helder and Perpignan. Rain setting in later over all the more western parts of the United Kingdom, and thunderstorms occurring at Aberdeen and Shields.

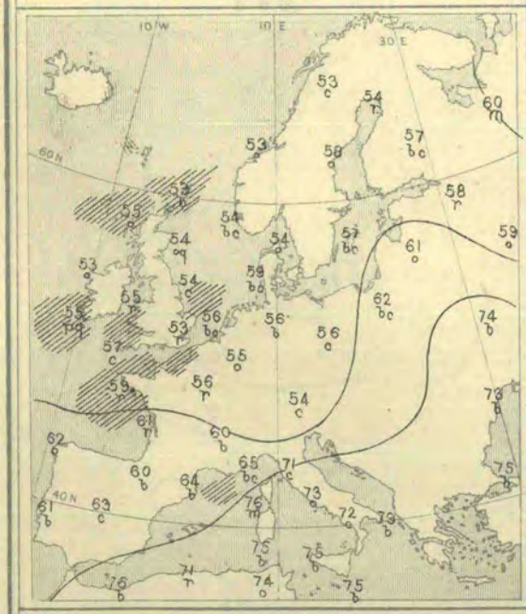
Temperature highest, 81° at Trieste and Aumale, 79° at Lesina, 78° at Constantinople and La Calle, and 77° at Brindisi; above 70° over southern and eastern Europe generally. Lowest, 50° at Sumburgh Head and Le Mans, 51° at Christiansund, 52° at Belmullet and Liverpool, and 53° at Skudesnaes, Stornoway, Wick, Mullaghmore, and Parsonstown; below 55° in many parts of the United Kingdom. Daily maxima below 60° in the west and north of our Islands, but above 70° at some of the French stations, and also in the north of Sweden. Thermometer exceeding 80° in many parts of southern Europe, and exceeding 90° in Algeria, the highest reading of all being 104° at Biskra.

Wind light or moderate from the Southward in the extreme west and north of our Islands, and also in Holland and north Germany; South-Westerly over the Baltic and Finland. Light from the North-Westward over the greater part of England, and also in the west of France; Northerly in Portugal, and also in Algeria; variable in Italy, Austria, and the south of Russia. Subsequently backing to the South-West or South in all the more western and northern parts of the United Kingdom, and increasing to a strong breeze on our extreme north-west coasts.

Barometer highest, 30·1 ins. and upwards, over the Bay of Biscay, the west of France, and the north-west of Spain, 30·0 ins. and upwards over Turkey and the southern parts of Italy and Russia. Lowest, 29·5 ins. and less, in shallow depressions lying over northern Russia and the Gulf of Bothnia, 29·7 ins. and less in a smaller system lying over north-west Germany. Large disturbance advancing later to our extreme north-west coasts, and barometer falling briskly in the west and north of our Islands generally; depression over northern Russia disappearing.

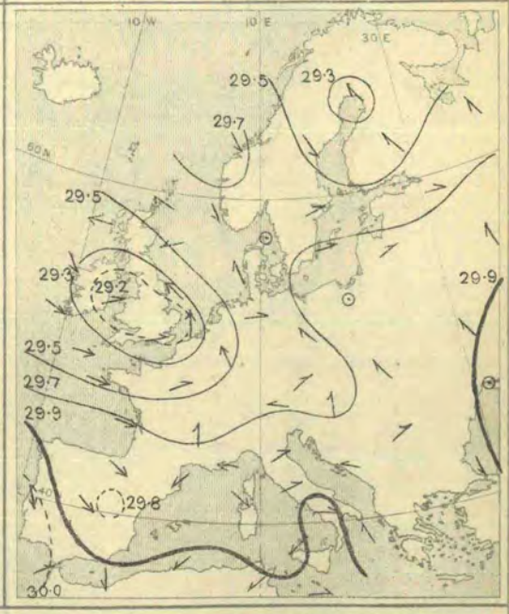
Monday, 30th June.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine over the greater part of eastern and southern Europe, as well as over Denmark, the south of Scandinavia, and the extreme south-west of our Islands. Dull elsewhere, with heavy rain over the greater part of England, France, and the north of Ireland, as well as at Haparanda and St. Petersburg. Weather improving somewhat later in the west and south of England, but remaining rainy in the east, with a thunderstorm at Cambridge. Heavy rain continuing over France, largest amounts being 1·5 ins. at Boulogne and Rochefort and 1·1 ins. at La Coubre.

Temperature highest, 79° at Brindisi, 78° at Sfax, 77° at Tunis, and 76° at Oran; above 70° in most parts of southern and eastern Europe. Lowest, 50° at Malin Head, 51° at Donaghadee, 52° at Loughborough, Liverpool, and Oxford, and 53° at Bodö, Christiansund, Sumburgh Head, Belmullet, York, Cambridge, and in London. Daily maxima below 60° in many parts of the United Kingdom, but thermometer exceeding 70° in central and southern parts of France, and reaching 90° or more at some of the Spanish, Italian, and Algerian stations.

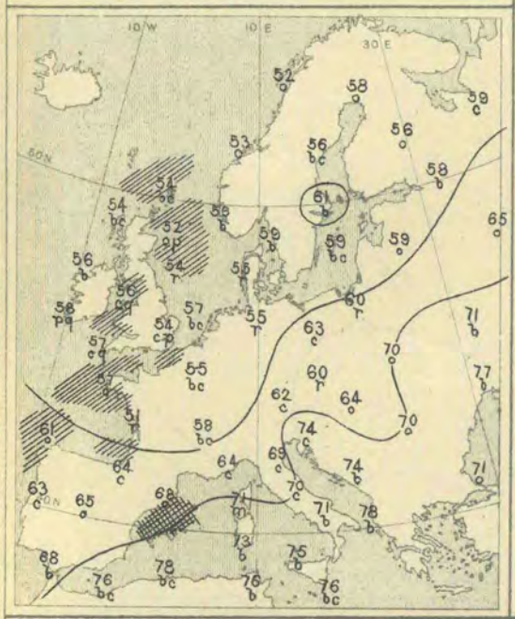
Wind fresh from the South-Westward or Westward in the west and south-west of our Islands and the west of France, moderate to strong from the South-Eastward in the north and east of the United Kingdom. Light from the Southward over the Netherlands, and also in Finland; North-Westerly in the west of Norway, and Westerly over Denmark and the Baltic; South-Easterly at most of the Italian stations and North-Easterly in Spain, but variable in Algeria, and also in the south of Russia. Subsequently veering to North-Westward in Ireland.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying to the south-westward of the Iberian Peninsula, 30·0 ins. and upwards in another system lying over the central and southern parts of Russia. Lowest, 29·2 ins. and less, in a depression lying over the north-west of our Islands, 29·4 ins. and less in another disturbance lying over the Gulf of Bothnia and the north of Sweden. Depression in north-west subsequently moving slowly south-eastwards over our Islands, and barometer beginning to rise in the extreme west and north.

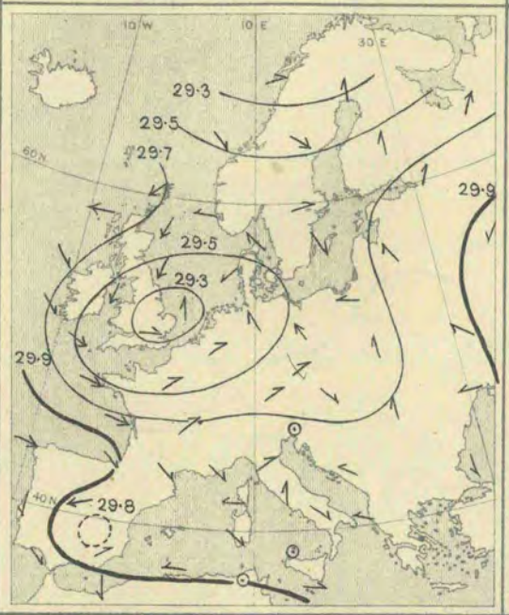
Judd & Co Lth Lith. 73 & 75, Farringdon Rd & Doctors Commons.

Tuesday, 1st July.

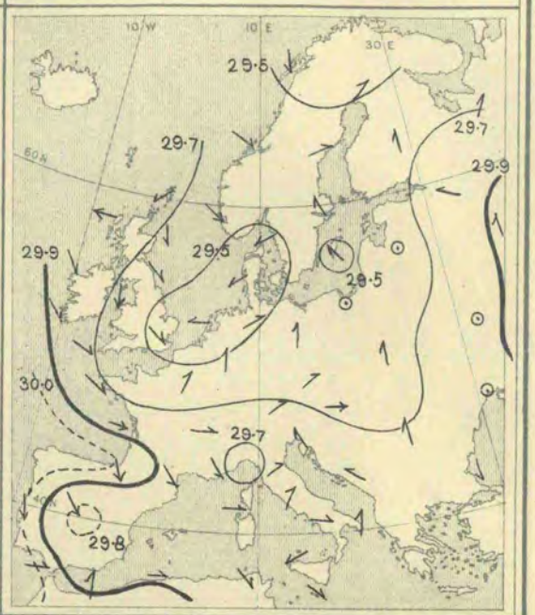
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather showery over the greater part of our Islands and France, and rainy in Germany and the south of Denmark. Fine in most other parts of Europe, but dull in Austria, and also in the north of Spain. Some improvement taking place later in the west and north of our Islands, but weather remaining very showery elsewhere, with thunderstorms in the east and south-east of England, as well as over France. Heavy rain at some French and German stations.

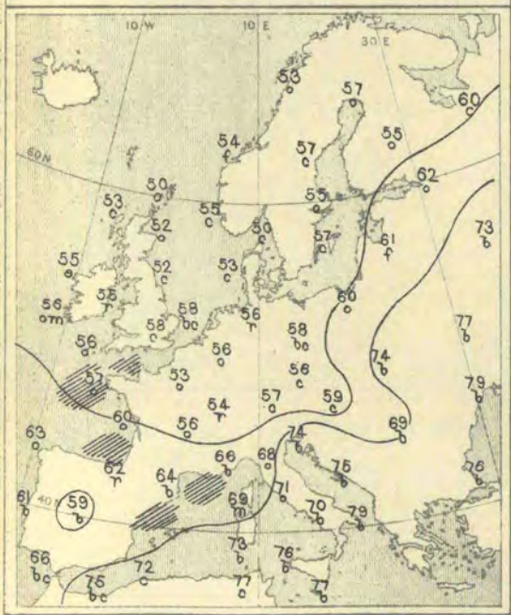
Temperature highest, 78° at Brindisi and Algiers, 77° at Odessa, and 76° at Nicolaieff, Oran, La Calle, and Malta; above 70° over eastern Europe and the Mediterranean generally, but below it in Spain. Lowest, 49° at Limoges, 50° at Leith, and 51° at Loughborough and Rochefort; below 55° at several of our own and the French stations, as well as in the west of Norway. Daily maxima below 60° at several of our western and northern stations, but thermometer exceeding 65° in the south-east of England and France. Daily maxima exceeding 70° in the extreme southern and south-eastern countries only; exceeding 90° over Algeria and at Naples.

Wind moderate to strong from the North-Eastward over the North Sea and the northern parts of the United Kingdom, from the North-Westward in the west of our Islands, and from the Westward over the Bay of Biscay; light from the South-Westward over the Netherlands and western Germany, and also over Finland. Light from South in Italy and Austria, moderate to strong from the North-Eastward in Spain, variable or Easterly in Algeria. Subsequently shifting to the Northward in most parts of the United Kingdom.

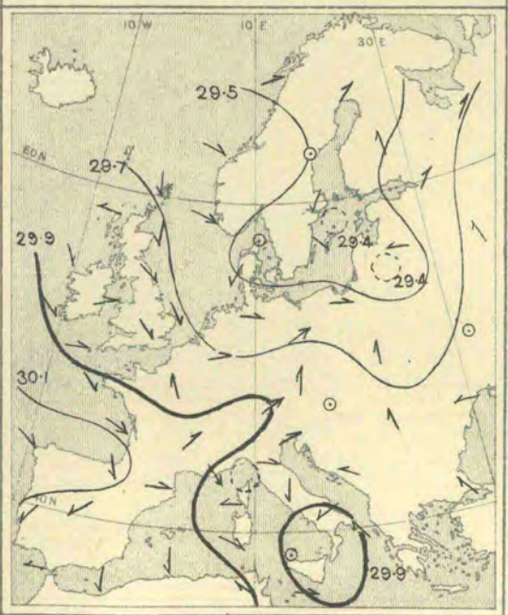
Barometer highest, 30·0 ins. and upwards, in an anti-cyclone lying to the west and south-west of the Iberian Peninsula, and also (apparently) in another system lying over the south of Russia. Lowest, 29·3 ins. and less, in a well-marked depression lying over England, and also in another disturbance over the north of Scandinavia. English depression subsequently moving eastwards and partially filling up; barometer rising in all parts of western Europe.

Wednesday, 2nd July.

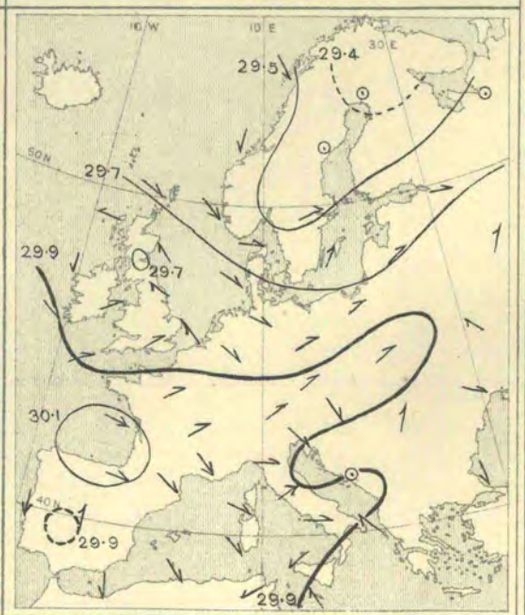
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-eastern Europe and the southern parts of the Mediterranean, as well as over the southern half of Spain; cloudy and unsettled elsewhere, with rain in some places. Thunderstorms over several parts of England later, showers in Ireland and at several French and German stations.

Temperature still very low in most places; ranging between 70° and 81° over the southern and eastern parts of the Mediterranean, in central and southern Russia, and at Constantinople, much lower elsewhere. As low as 50° at Sumburgh Head, 52° at Aberdeen and Shields, 53° at many other stations (including Paris), and 58° at London and Berlin. Rising to 69° in London later and to upwards of 70° over the southern parts of France, but low generally for the time of year, excepting in Italy, Spain, and Algeria, where daily maxima exceeded 80°.

Wind very variable. Mainly North-Westerly over the British Islands and Bay of Biscay, North-Easterly over Spain, South-Westerly over Germany, very variable elsewhere. Becoming South-Easterly on our north-east and east coasts later, and backing to the South-Westward over the greater part of England, but no important change occurring at the continental stations.

Barometer highest, 30·1 ins. and more to 29·9 ins., over south-western Europe and south Germany, exceeding 29·9 ins. over the south-east of Russia. Lowest, 29·5 ins. and less, over the Baltic and Gulf of Bothnia, 29·8 ins. and less over the Gulf of Genoa. Shallow local disturbances in several places, one being off the west of Scotland. Latter disturbance moving south-eastwards later.

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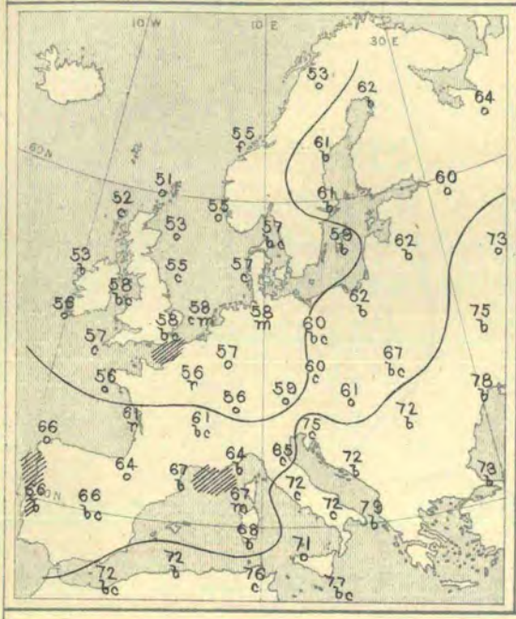
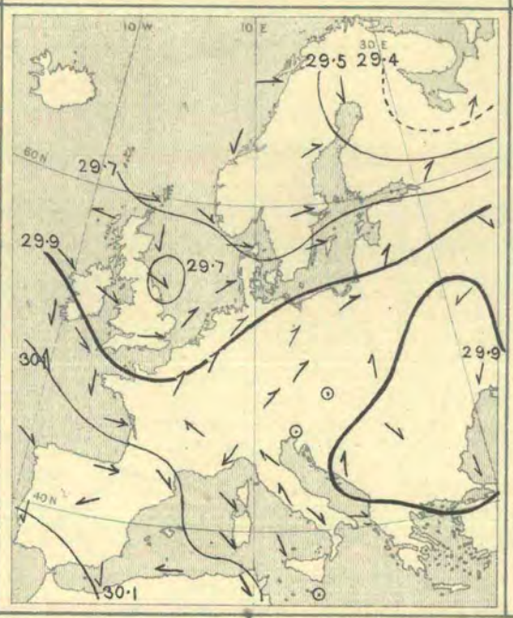
Thursday, 3rd July.

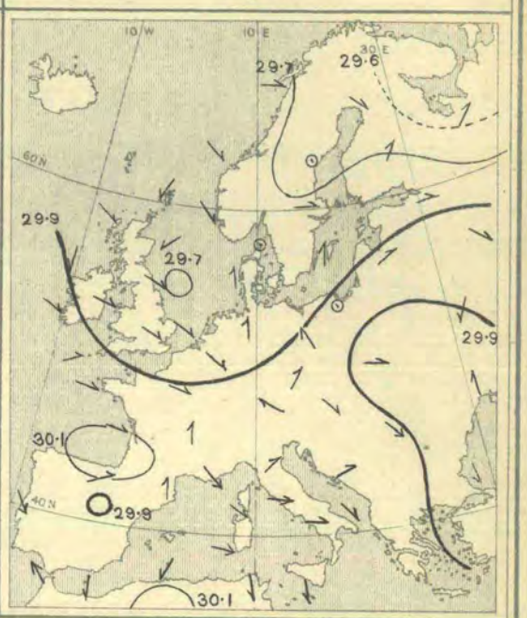
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in the western parts of our Islands, as well as over Scandinavia and the whole of southern and eastern Europe; cloudy or overcast elsewhere, with showers at some of the English and French stations. Showers falling during day in nearly all parts of north-western, western, and central Europe, with thunder and hail at Spurn Head and in western Germany.

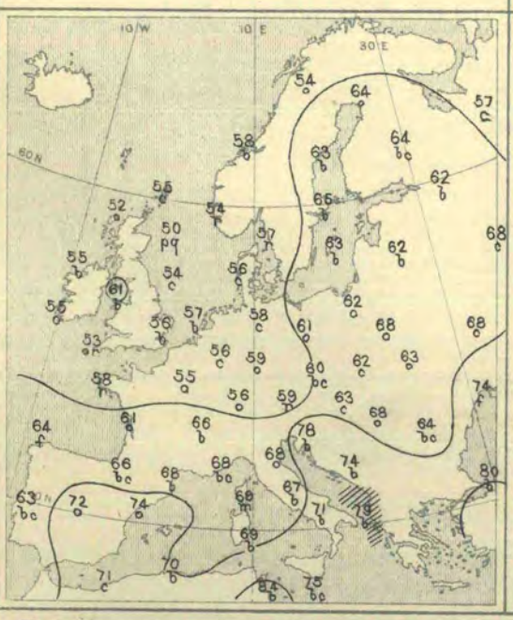
Temperature highest, 79° at Brindisi, 78° at Odessa, 77° at Malta, and 76° at Nicolaieff and La Calle; above 70° in nearly all parts of southern and eastern Europe, and above 60° over Lapland and northern Russia. Lowest, 49° at Leith, 51° at Sumburgh Head and Ardrossan, 52° at Stornoway, and 53° at Bodö and many British stations. Daily maxima below 60° at several of our western and northern stations, about 65° in the south and east of England, 70° to 80° over central Europe, and exceeding 90° in the south of Italy and Algeria.

Wind light to moderate from the Westward or North-Westward over Ireland, England, and the west of France, and from the South-Westward over the Netherlands, Denmark, Sweden, the Baltic, and the greater part of central Europe. Light from between North and East in Scotland, and also in Spain; North-Westerly over Italy and the adjacent parts of the Mediterranean; variable in Austria and the south of Russia. No important change occurring during day.

Barometer highest, 30·1 ins. and upwards, in a large anti-cyclone lying over Spain and Algeria, 30·0 ins. and upwards over the south of Russia. Lowest, 29·4 ins. and less, in a depression lying over the White Sea, 29·7 ins. and less in a small shallow disturbance off the north-east of England. Latter system subsequently moving eastwards; barometer rising in most parts of our Islands and France, and gradients over British Islands becoming more regular.

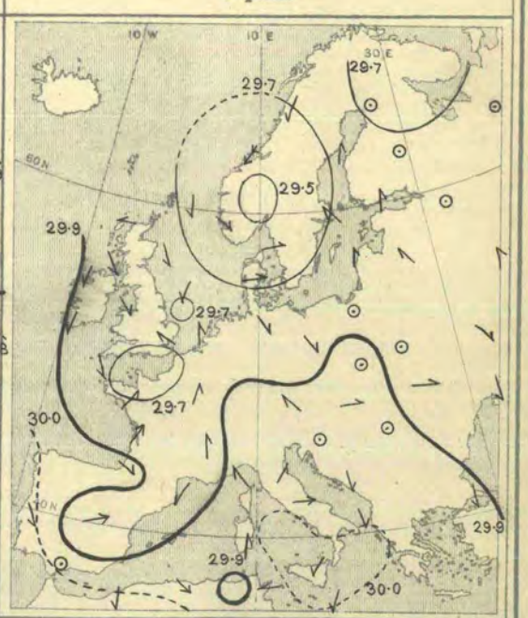
Friday, 4th July.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine over the greater part of England, Ireland, and Scandinavia, as well as over the whole of Russia and southern Europe. Dull elsewhere, with rain over the western parts of the Channel and the north-west of France, as well as in the east of Scotland and the south of Norway. Improving later in Scotland, but rain falling over nearly the whole of Ireland, England, and France; amounts large in many places (1·2 ins. at Dungeness, 1·3 ins. at Jersey, 1·5 ins. at Cape Gris Nez, and 2·9 ins. at Sittingbourne).

Temperature highest, 84° at Sfax, 80° at Constantinople, 79° at Brindisi, 78° at Trieste, and 77° at Nicolaieff; above 60° in Finland and Sweden. Lowest, 50° at Aberdeen, 51° at Nairn, 52° at Stornoway and Liverpool, and 53° at Scilly and Prawle Point; low for the time of year in all parts of the United Kingdom. Daily maxima below 60° at several of our south-western, western, and northern stations, but thermometer rising to 67° at Loughborough and 69° at Cambridge.

Wind over western Europe showing cyclonic circulation round the two depressions lying, respectively, near the mouth of the Channel and over the south of Norway, its force being everywhere light or moderate. Chiefly light from the Southward in Russia, but Northerly in Spain, Italy, and Algeria, and variable in Austria. Wind in south of England shifting to the Northward at night, and blowing strongly in many places.

Barometer highest, 30·0 ins. and upwards, in a large anti-cyclone lying over Spain, France, Italy, and the western parts of the Mediterranean, as well as in a smaller system over central Russia. Lowest, 29·6 ins. and less, in a shallow depression over the south of Norway, 29·7 ins. and less in a smaller system lying near Haparanda, 29·8 ins. and less in two other disturbances lying, respectively, near the mouth of the Channel and over the south of Russia. Channel depression subsequently advancing steadily in an east-north-easterly direction, and barometer falling briskly over Spain, France, and the south of England.

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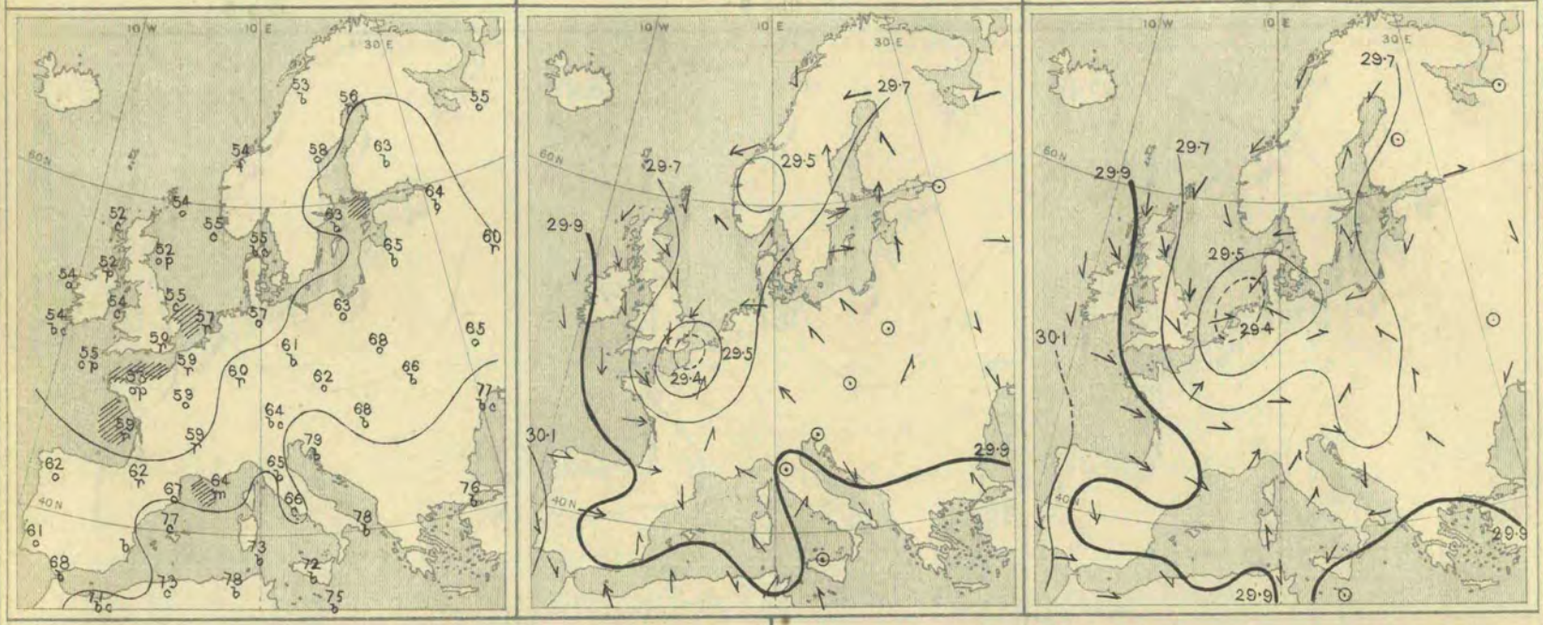
Saturday, 5th July.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.



Weather in morning fine and bright over the south-eastern half of Spain, the Mediterranean, and south-eastern Europe, as well as over Finland; cloudy or overcast and unsettled elsewhere. Much rain later over the south-east of England, the north-east of France, and on the eastern shores of the North Sea, as well as in Bavaria. Showers in most other places; very unsettled generally.

Temperature very low for time of year, except in extreme south and south-east. Morning readings exceeding 70° at the Mediterranean stations and over south-eastern Europe only; below 60° over north-western Europe, and as low as 50° in London, 51° at Nairn, 52° at Stornoway, Aberdeen, Liverpool, and Oxford. Scarcely exceeding 60° in any part of our Islands later (except at Leith), exceeding 80° over the extreme southern parts of France and in Italy, and exceeding 90° in some parts of Algeria.

Wind Northerly to North-Easterly over the United Kingdom, strong to a gale on our south and south-east coasts; North-Westerly, strong, over Brittany and the south-west of France, very variable and moderate over central and southern Europe, South-Westerly to Southerly over the Baltic. Blowing strongly from the Northward on our south-east and east coasts later, moderating in the west.

Barometer highest, 30·0 ins. and more, over Portugal and the adjacent parts of the Atlantic, 29·9 ins. and more over the west of Ireland, 29·8 ins. and more over central Europe, western and central Russia; lower elsewhere. As low as 29·5 ins. in the depression lying over Norway, and 29·4 ins. and less in a well-marked disturbance lying over Kent and the Straits of Dover. Latter disturbance moving north-eastwards later across the North Sea.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The changeable, rainy (cyclonic) conditions which have prevailed over the north-western, northern, and central countries of Europe for so long past, have increased in intensity during this week, and spread southwards over France, Germany, and Austria, owing to the giving way of the high-pressure area noticed last week over Spain and France. Simultaneously with this change depressions have been advancing directly over our Islands, the Channel, and North Sea, while smaller systems have been developed over the Mediterranean and southern Europe. The wind has been very variable both in force and direction, there having been a considerable admixture of breezes from between North and East, with those from between South and West; temperature has been very low for the time of year, and the rainfall (especially over the south and south-east of England and the Channel) has been large.

At the close of the week there was nothing to indicate the approach of any material change.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.

SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 28.] *Third Series.* WEEK ENDING SATURDAY, 12TH JULY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 164.)	Observed during the Week.					Above or below the Mean for the Week.	Accumulated.							
				Averages of				For the Week.				From December 29th, 1889.			
		Highest.	Lowest.	Daily Maxima.	Daily Minima.	Daily Mean.		Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	64	38	55·3	43·4	48·9	6 below.	48	−31	0	0	873	+ 78	438	− 72
	1. SCOTLAND, EAST	66	40	59·2	44·4	51·3	6 below.	65	−36	0	0	1051	− 34	485	− 58
	2. ENGLAND, N.E.	68	41	60·8	47·9	53·8	5 below.	83	−27	0	0	1115	− 30	389	− 93
	3. ENGLAND, EAST	70	38	62·1	46·9	54·0	8 below.	84	−37	0	0	1298	− 66	468	− 39
	4. MIDLAND COUNTIES	69	38	61·5	46·0	53·2	8 below.	78	−42	0	0	1302	− 78	478	− 26
	5. ENGLAND, SOUTH	70	40	63·0	49·1	55·6	6 below.	95	−32	0	0	1419	− 55	305	−168
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	65	37	59·3	46·4	52·4	5 below.	73	−30	0	0	1149	− 3	325	− 73
	7. ENGLAND, N.W.	64	42	59·1	48·7	53·6	6 below.	81	−29	0	0	1213†	− 2	302	− 81
	8. ENGLAND, S.W.	68	36	61·3	48·2	54·3	6 below.	86	−31	0	0	1370	− 44	245	+ 12
	9. IRELAND, NORTH	67	39	59·0	47·0	52·6	6 below.	74	−28	0	0	1207	− 22	295	− 55
	10. IRELAND, SOUTH	67	38	61·3	47·8	54·1	6 below.	85	−25	0	0	1413	− 7	225	− 14
	— CHANNEL ISLANDS	65	50	60·6	52·5	56·3	5 below.	100	−20	0	0	1565	+ 49	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 164.)	Rainfall. For the Week.			Rainfall. From December 29th, 1889.				Bright Sunshine. For the Week.		Bright Sunshine. From December 29th, 1889.			
		Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Hours recorded.	Percentage of possible Duration.	Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	15	10 more.	135	+15	25·5	+ 0·3	22	19	641	−118	25	− 5
	1. SCOTLAND, EAST	5	13	7 more.	116	+10	15·8	+ 0·3	37	31	739	−114	29	− 5
	2. ENGLAND, N.E.	4	3	3 less.	99	+ 2	11·6	− 1·6	27	23	669	−113	27	− 4
	3. ENGLAND, EAST	6	6	0 (average).	105	+ 6	12·2	− 0·1	28	25	870	− 86	35	− 3
	4. MIDLAND COUNTIES	6	4	2 less.	97	− 1	11·4	− 2·9	22	19	752	− 87	30	− 3
	5. ENGLAND, SOUTH	5	7	2 more.	99	+ 5	14·7	+ 1·1	21	19	805	− 87	32	− 4
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	4	12	7 more.	118	+ 7	25·9†	− 1·2	39	34	780	− 25	31	− 1
	7. ENGLAND, N.W.	4	6	2 less.	110	+ 9	16·3	+ 0·1	30	25	728	− 91	29	− 3
	8. ENGLAND, S.W.	5	10	2 more.	114	+ 7	19·4	− 1·7	30	27	854	−101	34	− 4
	9. IRELAND, NORTH	5	6	2 less.	127	+ 5	16·4	− 1·3	28	23	780	+ 4	31	+ 1
	10. IRELAND, SOUTH	5	9	3 more.	127	+11	22·7	+ 2·5	27	23	806	− 67	32	− 2
	— CHANNEL ISLANDS	5	9	4 more.	120	+ 5	18·6	+ 2·6	44	40	1001	−124	40	− 5

General Remarks.

Weather has remained changeable and very cool in all parts of the United Kingdom, but in the English and Irish districts the rainfall has been less frequent and heavy than it was during the preceding week. Over Scotland, however, large quantities have fallen, with snow in some of the mountain districts on the 8th. Thunderstorms have been experienced at one or two of the English stations.

Temperature has been considerably below the mean, the deficit being as large as 8° in "England E." and "Midland Counties," and 5° or 6° in all other districts. The highest readings were observed, as a rule, about the middle of the week, but in the north they occurred more frequently towards its close, the maxima ranging from 70° in "England E." and "England S." to 64° in "Scotland N." and "England N.W." On some occasions the maximum readings were below 60° over a considerable portion of the United Kingdom and below 55° in some of the northern districts. The absolute minima occurred on somewhat irregular dates and were very low for the time of year; in "England S.W." the thermometer fell to 36°, in "Scotland W." to 37°, in "Scotland N.," "England E.," and the "Midland Counties" to 38°.

Rainfall has been considerably more than the mean in Scotland, and a little more in the southern parts of England and Ireland, but less elsewhere. In "Scotland N." the aggregate fall amounted to three times the normal.

Bright Sunshine has again been very deficient, the percentage of the possible amount of duration varying from only 19 in "Scotland N.," the "Midland Counties," and "England S.," to 34 in "Scotland W.," and 40 in the "Channel Islands."

Barometer and Wind.—Barometrical pressure has been highest to the southward of the United Kingdom, while numerous cyclonic disturbances have advanced over our Islands from the Atlantic. The wind has therefore varied between South-West and North-West. The depressions which appeared in our neighbourhood were mostly small and shallow, but on the 7th a rather deep disturbance travelled north-eastwards across Ireland and the north of England, and produced a fresh to strong gale from the South-Westward over the Bristol and English Channels.

† This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 163 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.	*	*
0. SCOTLAND, N.	Sumburgh Head	57	43	53·9	44·9	49·1	—4·3	50	0	6	2·35	+1·87	*	*
	Stornoway	57	40	54·7	43·4	48·7	—5·7	47	0	6	1·29	+0·59	31·2	26
	Wick	57	40	55·0	42·7	48·4	—6·6	45	0	6	1·42	+0·93	*	*
	Lairg S	64	38	54·9	42·2	48·1	—6·4	43	0	5	1·14	+0·44	*	*
	Glencarron S	61	40	55·3	42·3	48·4	—6·0	45	0	6	1·90†	+0·52	?	?
	Fort Augustus S	62	43	57·8	44·6	50·7	—6·4	61	0	5	1·03†	?	13·1	11
1. SCOTLAND, E.	Nairn	62	43	58·0	45·3	51·2	—6·5	64	0	7	1·78	+1·26	*	*
	Aberdeen	59	41	57·6	45·1	50·9	—6·3	62	0	6	1·58	+0·95	41·0	34
	Braemar S	60	41	56·0	43·1	49·1	—5·6	50	0	5	1·52	+0·89	28·5‡	24‡
	Ochtertyre S	64	40	62·7	43·4	52·4	—5·2	73	0	3	1·17	+0·42	*	*
	Leith	66	43	63·1	45·3	53·6	—4·9	81	0	5	0·80	+0·20	*	*
	Marchmont S	62	43	58·0	44·4	50·7	—5·7	61	0	4	0·91	+0·15	41·0	34
2. ENGLAND, N.E.	Alnwick Castle	62	45	58·4	47·0	52·3	—5·3	72	0	4	0·78	+0·20	*	*
	Durham	68	44	62·7	46·9	53·8	—5·0	83	0	4	0·18	—0·41	26·3	22
	Shields	65	45	59·6	47·6	53·2	—5·1	78	0	5	0·40	—0·13	*	*
	Scarborough ℳ	67	41	61·2	47·4	53·8	—5·7	83	0	3	0·17	—0·44	28·3‡	24‡
	York	67	45	62·9	47·9	54·9	—6·4	90	0	5	0·20	—0·28	27·3	24
	Spurn Head	64	48	60·1	50·3	54·9	—5·0	90	0	4	0·15	?	*	*
3. ENGLAND, E.	Hillington ℳ	69	38	62·9	45·7	53·7	—6·7	82	0	4	0·24	—0·36	32·0	28
	Yarmouth	66	42	60·1	48·0	53·6	—7·6	81	0	7	0·72	+0·14	*	*
	Geldeston	68	39	61·5	46·6	53·5	—7·2	81	0	7	0·49	—0·01	27·5	24
	Cambridge	70	42	63·7	46·7	54·6	—7·8	88	0	7	0·50	—0·02	24·9	22
	Rothamsted	67	42	61·9	47·3	54·1	—8·2	85	0	7	0·53	—0·06	*	*
	Ingatestone	69	41	62·5	47·0	54·2	—8·6	85	0	6	0·83	+0·28	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	66	43	62·1	47·3	54·2	—7·2	85	0	5	0·41	—0·20	21·1‡	18‡
	Loughborough	65	43	62·1	47·7	54·4	—6·6	87	0	6	0·56	+0·04	24·0‡	21‡
	Cheadle ℳ	61	43	57·7	45·9	51·4	—8·9	66	0	5	0·42	—0·28	*	*
	Churchstoke ℳ	62	38	59·9	42·2	50·4	—9·3	59	0	6	0·34	—0·23	24·0	21
	Hereford ℳ	66	41	63·8	45·6	54·1	—7·3	85	0	5	0·20	—0·32	*	*
	Cirencester	66	38	62·3	45·6	53·3	—7·4	79	0	6	0·52	—0·15	17·0	15
	Oxford	69	45	62·9	48·0	54·9	—6·4	90	0	6	0·45	—0·12	24·1	21
5. ENGLAND, S.	London	69	43	63·4	49·0	55·7	—7·5	96	0	5	0·71	+0·22	19·6‡	18‡
	Strathfield Turgiss ℳ	70	44	65·3	47·6	55·8	—5·4	97	0	5	0·40	—0·11	*	*
	Dungeness	65	40	61·6	49·1	54·9	—6·7	90	0	5	0·58	—0·18	28·0‡	25‡
	Hastings (St. Leonards)	65	45	61·1	49·6	55·0	—5·8	91	0	5	1·02	+0·60	24·1	22
	Southampton	70	46	65·9	49·2	56·9	—4·6	104	0	6	0·90	+0·37	25·5	23
	Hurst Castle	66	48	62·6	51·9	56·9	—4·8	104	0	5	0·66	+0·18	*	*
	Stowell ℳ	64	44	61·2	47·4	53·8	—6·5	83	0	5	0·48	?	5·3‡	5‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	65	45	60·8	46·9	53·4	—3·5	80	0	6	1·19†	—0·15	*	*
	Glasgow	62	43	59·2	45·8	52·0	—5·5	70	0	4	1·47	+0·68	39·2	33
	Ardrossan	61	42	59·4	48·1	53·4	—4·3	80	0	3	1·44	+0·79	*	*
	Glenlee S	60	37	57·6	43·1	49·9	—7·1	55	0	4	0·72	—0·18	*	*
	Douglas (Isle of Man)	62	45	59·5	48·3	53·5	—3·7	81	0	3	1·13	+0·51	39·1	34
7. ENGLAND, N.W.	Newton Reigny	61	42	58·3	45·5	51·5	—6·7	67	0	3	0·13	—0·52	29·7	25
	Stonyhurst	61	43	57·9	47·2	52·2	—6·3	71	0	5	0·80	—0·19	28·0	24
	Blackpool ℳ	62	50	60·0	51·0	55·2	—4·5	92	0	3	0·80	+0·10	29·4	25
	Manchester	64	42	59·3	46·9	52·7	—7·6	75	0	4	0·66	—0·22	*	*
	Liverpool Obsy. (Bidston)	62	48	59·6	50·4	54·7	—5·8	89	0	5	0·53	—0·12	*	*
	Llandudno ℳ	61	45	59·4	49·8	54·3	—6·1	86	0	4	0·44	—0·16	31·6	27
	Holyhead	62	48	59·4	50·1	54·4	—4·5	87	0	6	0·59	+0·09	*	*
8. ENGLAND, S.W.	Llandovery	65	36	62·4	45·0	53·1	—7·3	78	0	6	1·06	+0·24	*	*
	Pembroke	60	48	57·9	50·9	54·2	—5·6	85	0	5	1·01	+0·50	30·7	27
	Arlington (N. Devon)	61	43	58·4	46·7	52·1	—8·8	71	0	5	1·21	+0·17	*	*
	Cullompton ℳ	67	42	63·6	46·8	54·6	—6·8	88	0	4	0·57	—0·05	30·4	27
	Falmouth	65	47	60·5	49·9	54·8	—5·9	90	0	5	1·10	+0·41	33·5	30
	Plymouth	68	48	64·9	50·1	57·0	—4·6	105	0	5	1·13	+0·57	24·6	22
	Prawle Point	63	44	61·1	47·9	54·0	—5·6	84	0	6	0·59	?	*	*
9. IRELAND, N.	Malin Head	59	48	56·1	48·7	52·1	—4·6	71	0	5	0·56	?	*	*
	Londonderry	67	45	61·1	46·5	53·3	—5·0	79	0	4	0·51	—0·23	*	*
	Mullaghmore	61	48	58·7	49·0	53·1	—6·4	78	0	5	0·97	+0·11	*	*
	Belmullet	? 60	45	57·9	48·4	52·8	—4·8	76	0	7	0·77	?	*	*
	Markree Castle	61	42	58·7	45·6	51·7	—8·0	68	0	7	0·83	+0·09	27·8	24
	Brookeborough	60	39	58·1	43·8	50·5	—9·4	60	0	5	0·50	?	*	*
	Armagh	64	42	60·0	46·0	52·5	—7·3	74	0	5	0·16	—0·53	27·1	21
	Donaghadee	61	49	60·9	50·6	55·3	—2·8	93	0	3	0·29	—0·29	*	*
	Edgeworthstown	63	39	59·9	44·6	51·7	—8·0	68	0	6	0·69	—0·13	*	*
10. IRELAND, S.	Dublin	63	45	60·4	48·8	54·2	—5·5	85	0	6	0·45	—0·06	28·5	25
	Parsonstown	63	38	61·7	45·0	52·7	—6·4	75	0	4	0·35	—0·32	17·4	15
	Kilkenny	63	41	60·3	45·9	52·6	—7·3	74	0	5	0·68	+0·14	*	*
	Waterford	65	42	62·4	46·7	54·0	—6·5	84	0	5	1·01	+0·39	*	*
	Roche's Point	63	46	61·0	50·1	55·2	—5·5	92	0	5	1·35	+0·63	*	*
	Valencia	63	43	60·9	48·1	54·1	—4·6	85	0	5	1·75	+0·87	34·6	30
	Killarney	64	39	61·5	47·1	53·8	—5·7	83	0	5	1·04	?	*	*
	Foynes	67	47	61.8	50·8	55·9	—3·2	97	0	4	0·63	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	63	50	59·1	52·3	55·5	—4·7	95	0	4	0·97	+0·47	*	*
	Jersey	65	51	62·1	52·7	57·0	—4·5	105	0	5	0·78	+0·28	44·0	40

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

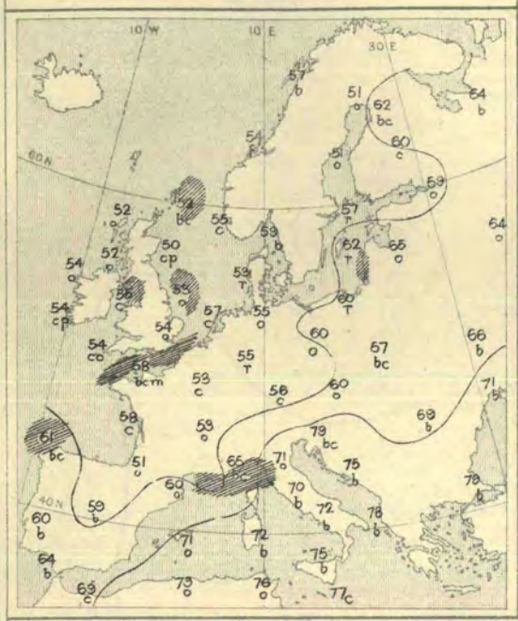
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 6th July.

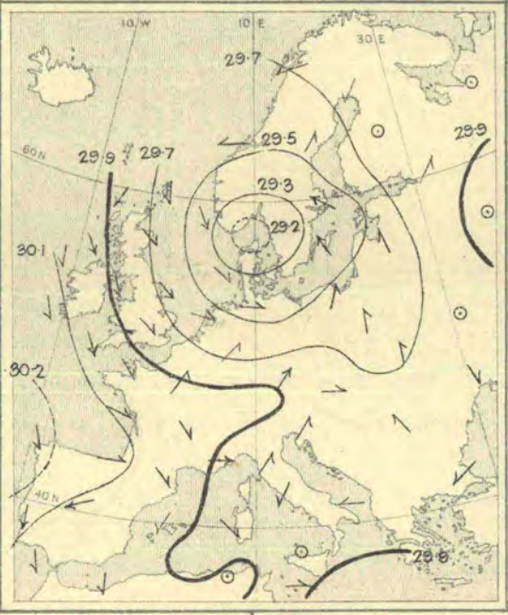
Temperature and Weather.

8 a.m.

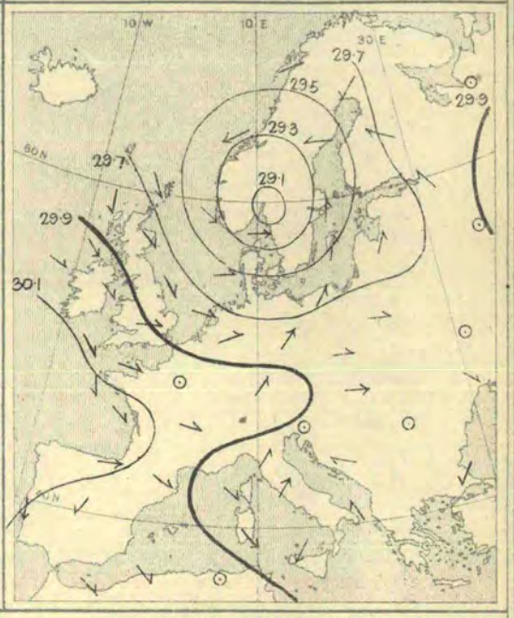


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning clear and bright over Spain, the southern and eastern shores of the Mediterranean, and south-eastern Europe generally, as well as in Lapland and the north of Russia; cloudy, changeable, and very unsettled elsewhere, with heavy rain in Denmark and the south of Sweden, and showers in several parts of our Islands, France, and Germany and Hungary. No important change later, largest amounts of rain reported being 0·8 in. at Hernösand, 0·7 in. at Cracow, and 0·4 in. to 0·6 in. over the south of Sweden and at Vienna.

Temperature very low generally; highest morning values ranging from 70° to 79° at the Mediterranean stations and over south-eastern Europe; the lowest (below 60°) over France, the British Islands, the North Sea, and Norway. Lowest of all, 50° at Aberdeen, 51° at Wick, 52° at Sumburgh Head, Stornoway, Malin Head, Pembroke, and Oxford. Rising to very little above 60° over the United Kingdom and Norway during the day, exceeding 70° over the southern parts of our area, and rising to between 80° and 90° over the south of Italy, Austria, and Hungary, and to 100° and more over central Algeria.

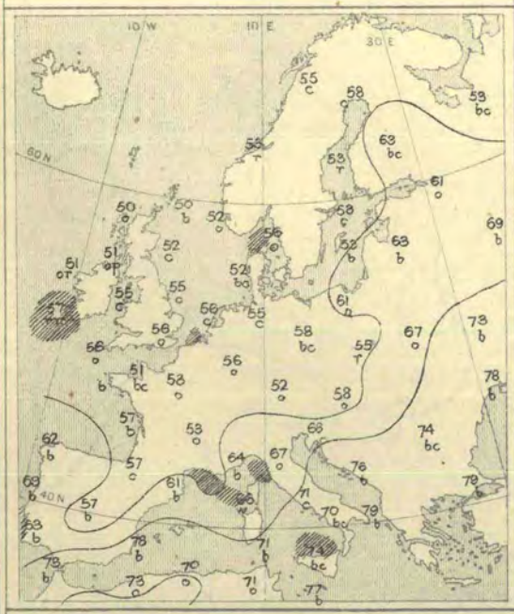
Wind North-Westerly, and moderate, over the British Islands and the Bay of Biscay, Northerly to North-Easterly in Spain, South-Westerly over Germany, Southerly to South-Easterly over the Baltic; blowing a fresh gale from East-South-East at Stockholm, and from North-North-East at Faerder. Falling light in our Islands later, and beginning to back towards West at the Irish Stations. No important change elsewhere.

Barometer highest, 30·2 ins. to 30·0 ins., over Spain, the Bay of Biscay, and the west of Ireland, and exceeding 29·9 ins. over central Russia, lower elsewhere. Lowest of all, about 29·1 ins. over the Kattegat, to which position the depression noticed near Dover on Saturday had advanced. Latter disturbance moving northwards later, barometer rising over the North Sea and Germany, but beginning to fall again in the west of Ireland.

Monday, 7th July.

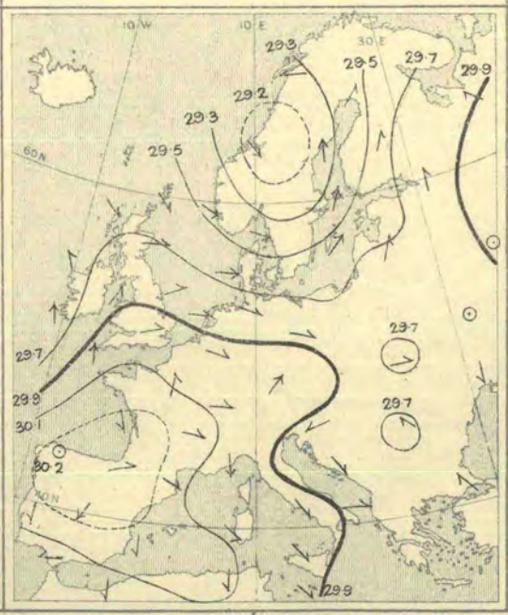
Temperature and Weather.

8 a.m.

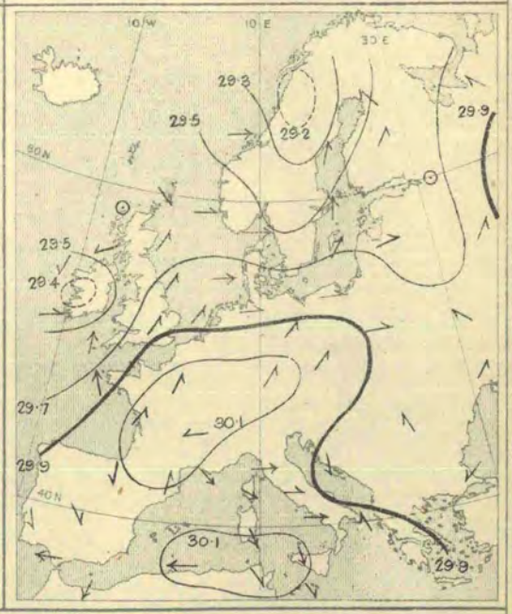


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over Spain, the southern and eastern shores of the Mediterranean, and over south-eastern Europe, southern and central Russia; changeable and unsettled elsewhere, with rain in many places; rain again beginning in the west of our Islands, and large quantities falling in the western and northern districts later (more than an inch in the east of Scotland), smaller quantities in the south-east and east of our Islands and some parts of Germany. [The newspapers report snow on the Grampian Hills.]

Temperature very low for time of year all over north-western Europe and the British Islands, higher and rising in the south and east. Exceeding 70° in morning over southern and eastern parts of the Mediterranean, the Balkan Peninsula, and southern Russia; below 60° over north-western Europe, and as low as 50° in the Shetlands, Hebrides, and at Parsonstown, 52° at Aberdeen and Skudesnaes. Remaining below 67° all over our Islands, and below 80° over France during day, but rising to between 80° and 86° over southern Italy and to upwards of 100° over central Algeria.

Wind mainly South-Westerly to North-Westerly over northern and north-western Europe, and blowing strongly at several of the Baltic and Scandinavian stations; backing to Southward in Ireland and blowing a moderate gale at Valencia Island; chiefly North-Westerly over the Mediterranean (a gale at Toulon), North-Easterly to Northerly over Spain. Backing to South and South-West all over Ireland and England later, and blowing a gale from South-West in the English Channel and south of Ireland. Little change elsewhere.

Barometer highest, 30·1 ins. to 30·3 ins., in an anti-cyclone lying over Spain, the Bay of Biscay, and south-western half of France, 29·9 ins. to 30·0 ins. and more over central Russia, lowest, about 29·1 ins., in a depression over Norway, about 29·7 ins. in other shallow systems over Hungary and eastern Germany. New depression advancing over Ireland from the westward later, the one in north moving northwards; little change elsewhere.

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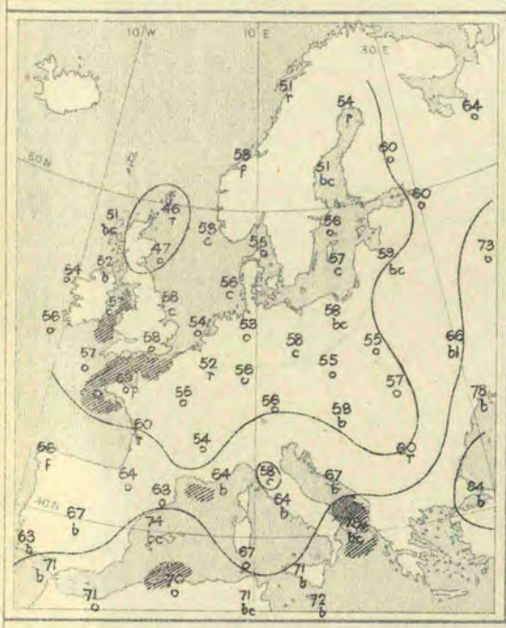
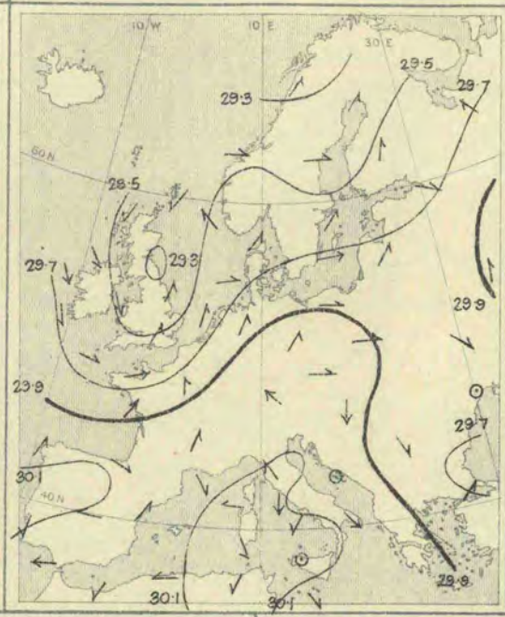
Tuesday, 8th July.

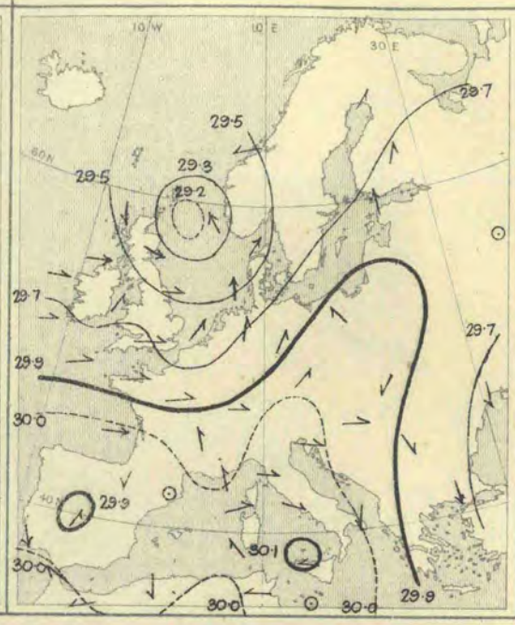
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over Spain, the southern and eastern parts of the Mediterranean, and on the shores of the Black Sea; very cloudy, changeable, and unsettled elsewhere; rain in many places, thunderstorm at Kiev. Continuing showery during day in almost all the northern and central countries of Europe, but falls not large in most places, excepting in the Shetlands. More than an inch reported locally at Hermanstadt.

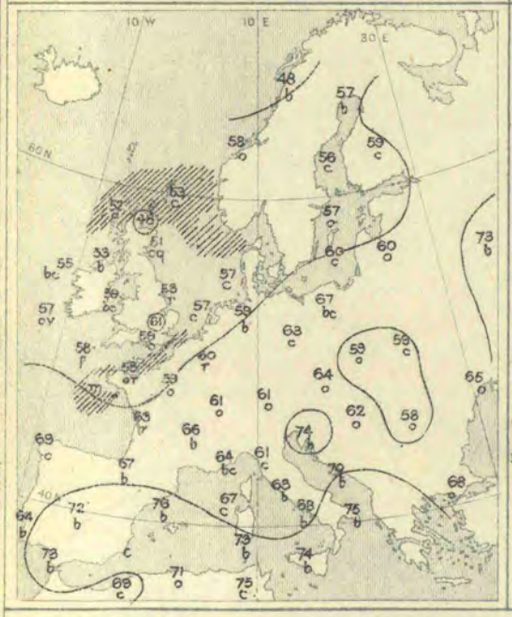
Temperature continuing very low for the time of year; morning readings exceeding 70° over central and southern Russia, as well as over Algeria and southern Italy—exceeding 80° at Constantinople; below 60° over north-western Europe, and below 50° in Scotland; lowest of all, 46° at Sumburgh Head, 47° at Nairn, Aberdeen, and Leith. Continuing below 60° in Scotland all day, and below 70° over the British Islands and at many German stations; not exceeding 79° at Biarritz and Lisbon, but rising to 90° or more over central Spain and Algeria.

Wind extremely variable; cyclonic circulation of light to fresh winds over the British Islands, north of France, and North Sea, South-Westerly breezes over the Baltic and Germany, Northerly in Austria and Italy, North-Easterly over the southern half of Spain. Strong Westerly breeze in Scotland later, and a Northerly gale setting in at Constantinople, and Northerly winds on the western coasts of the Black Sea generally.

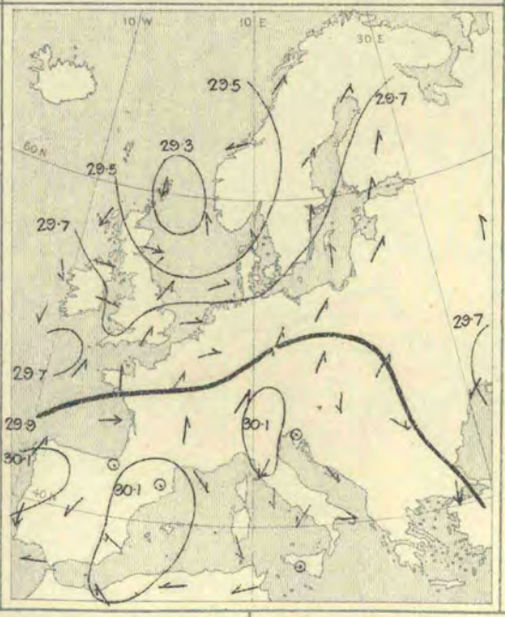
Barometer highest, 30·0 ins. to 30·1 in. and more, over the Mediterranean, south-western and southern Europe, and Austria; exceeding 29·9 ins. over central and eastern Russia. Lowest, 29·3 ins. and less, over the west of Lapland, 29·4 ins. and less in a depression off the north-east coast of England and east of Scotland, and 29·7 ins. and less in a new disturbance over the Black Sea and European Turkey. Both the northern depressions travelling northwards later, very shallow secondary systems passing across the United Kingdom. The Black Sea disturbance moving towards southern Russia.

Wednesday, 9th July.

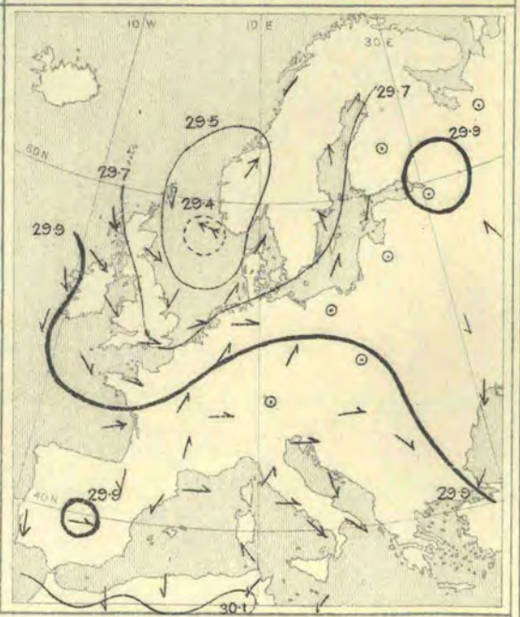
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Spain, the Mediterranean, and, apparently, the northern half of Russia; very changeable elsewhere, cloudy in most places, rainy at several stations in British Islands and France, very foggy over western half of English Channel. Rain considerable over France, Germany, and Scotland later, less heavy over the north-east and the south of Great Britain, none at the majority of Irish stations, over our north-western and Midland counties, or over southern Europe.

Temperature in morning exceeding 70° over the central and south-eastern parts of Spain, the southern shores of the Mediterranean, and southern Russia, and exceeding 80° over central Algeria; much lower elsewhere. Below 60° over north-western and northern Europe, and as low as 48° at Bodö and Wick, 50° at Nairn, 51° at Aberdeen, and 52° at Liverpool. Rising to above 65° over some of our Midland counties and at Leith during day, falling short of that value at our other stations and over the greater part of France, exceeding 70° over Germany, touching 78° at Lyons and Perpignan, 79° at Biarritz; exceeding 80° over Italy, and ranging between 100° and 110° over central Algeria.

Wind mainly South-Westerly over the south of England, France, and Germany, Southerly over the Baltic and Sweden, variable (North-Westerly to North-Easterly) in Scotland and Ireland, very variable elsewhere; not strong in any district. Subsequently veering to the Northward over Scotland, Ireland, and the western half of England, and varying greatly over central Spain.

Barometer highest, 30·0 ins. to 30·1 ins., over southern Europe and the Mediterranean, and, apparently, about 29·9 ins. over northern Russia. Lowest, 29·3 ins. and less, in a depression lying between the Shetlands and Norway, and about 29·7 ins. in a new disturbance at the mouth of St. George's Channel, and rather below 29·7 ins. in another one over southern Russia. Depression in south-west filling up later as it moved eastwards, that in the north beginning to move south-eastwards after travelling north-eastwards over our Islands. Local depression forming over Spain.

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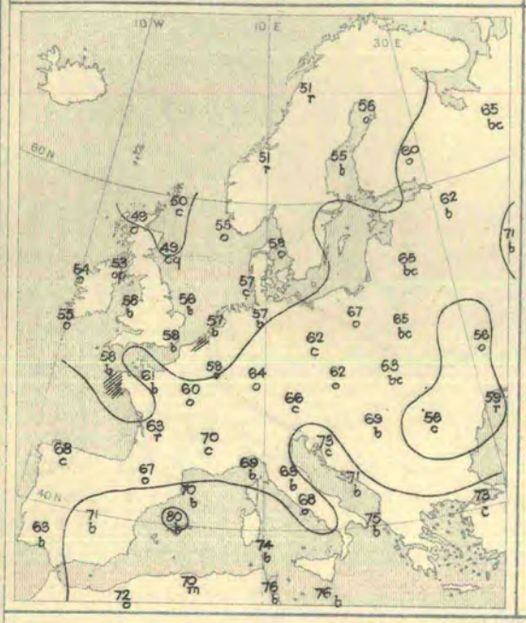
Thursday, 10th July.

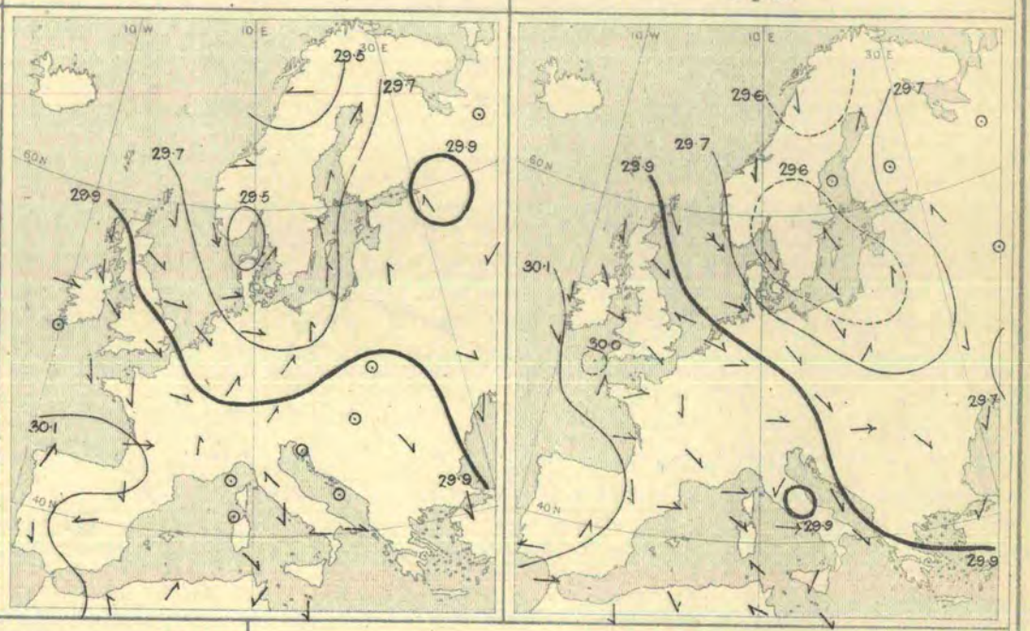
Temperature and Weather. 8 a.m.



Weather in morning fine and bright over northern and central Russia and at many of the Mediterranean stations; finer than of late over the British Islands, but very unsettled elsewhere—overcast in most places, dull and rainy in many. Rain in most parts of north-western Europe later, but not affecting the south-east of England till night. Amounts recorded, 0·8 in. at Stockholm and Carlsruhe, 0·6 in. at Memel, 0·5 in. at Besançon.

Temperature in morning as high as 80° at Barcelona and 78° at La Calle; above 70° over the extreme southern and south-eastern countries, and in southern and central Russia; much lower elsewhere. Below 60° over British Islands and Scandinavia, and as low as 49° at Stornoway and Aberdeen, 50° at Sumburgh Head and Wick, and 51° at Christiansund. Daily maxima, 60° to 67° over England and 66° at Leith, rather higher over Germany; below 80° at most French stations, but touching 86° in several parts of Italy, 88° at Perpignan and Cagliari, 95° at Madrid, 98° at Aumale, and 111° at Biskra.

Barometer and Wind. 8 a.m. and 6 p.m.

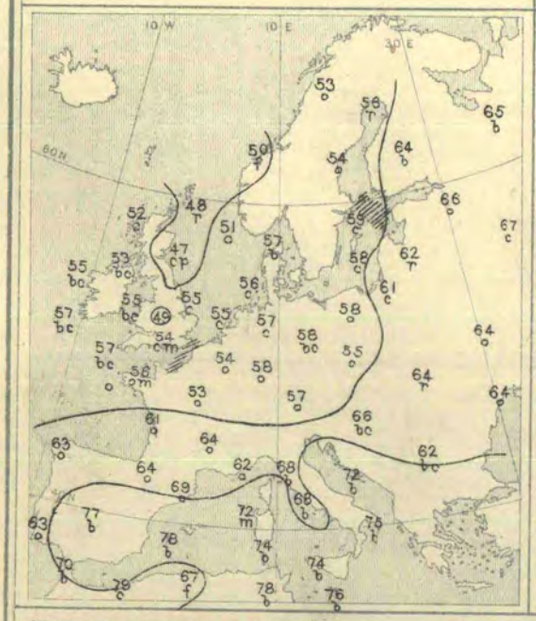


Wind light North-Westerly over the British Islands, Westerly to North-Westerly over the Netherlands and north of France, Southerly over Germany, the Baltic, and Sweden. Very variable elsewhere, but chiefly North-Easterly over Spain. Very light in force as a whole. Slight cyclonic circulations observed locally near Scilly, and over the eastern counties of England later; no material alteration elsewhere.

Barometer highest 30·0 ins. to 30·1 ins. and more, over the Mediterranean, south-western Europe, the north-west of France, and south-west of the British Islands, and exceeding 29·8 ins. over northern Russia. Lowest, 29·5 ins. and less, in a complex depression over Scandinavia, 29·7 ins. and less over southern Russia and the Caucasus. Gradients moderate over the North Sea; slight elsewhere. Rising in north later, but local disturbances appearing over the south-west and south-east of England, and the north of Italy.

Friday, 11th July.

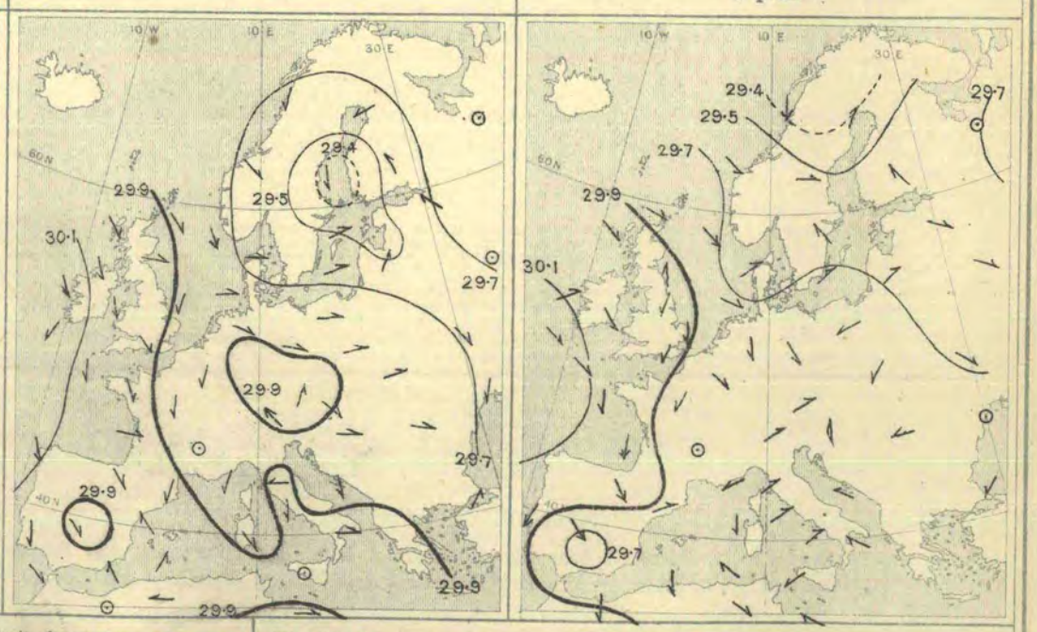
Temperature and Weather. 8 a.m.



Weather in morning fine and bright over the greater part of Spain, the southern and eastern shores of the Mediterranean, Austria, and the Balkan Peninsula; fair in the west of our Islands; dull and very unsettled elsewhere, with rain in several places. Rain falling subsequently over nearly the whole of the British Islands, France, and Germany—heavily at Valencia Island, Munich, and over the southern parts of France.

Temperature fallen fast in the south of Russia, and less quickly over our Islands; varying between 70° and 78° over those southern and south-eastern districts mentioned above in which the weather was fine and bright, much lower elsewhere. Below 60° all over north-western Europe, and as low as 47° at Aberdeen, 48° at Sumburgh Head, 4·°° at Loughborough, and 50° at many other of our northern and north-eastern stations. Daily maxima below 65° over our Islands, below 70° over the northern parts of Germany and France, and below 80° even in the south of France. Thermometer exceeding 85° at many of the Spanish, Italian, and Algerian stations, the highest reading of all being 109° at Biskra.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind light from the Northward over the United Kingdom and the Channel, Northerly to North-Westerly over the Bay of Biscay and Spain, North-Westerly in Norway, Westerly over Austria, north Germany, and the Baltic Provinces, Southerly to South-Easterly over Finland. Very variable elsewhere. Backing towards West and South-West on our northern and north-western coasts later. Moderate South-Westerly breeze also setting in at many of the Italian stations.

Barometer highest, 29·9 ins. to 30·1 ins. and more, over the United Kingdom, Spain, and adjacent parts of the Atlantic, and exceeding 29·8 ins. over northern and north-eastern Russia: lower between these regions. Lowest, 29·4 ins. and less, in a depression over the Gulf of Bothnia, and below 29·9 ins. over the east of France, Sardinia, Corsica, and Dalmatia. Beginning to fall in the north and west of our Islands later, but to rise slightly in the south and east. Depression over the Gulf of Bothnia apparently moving northwards to Lapland.

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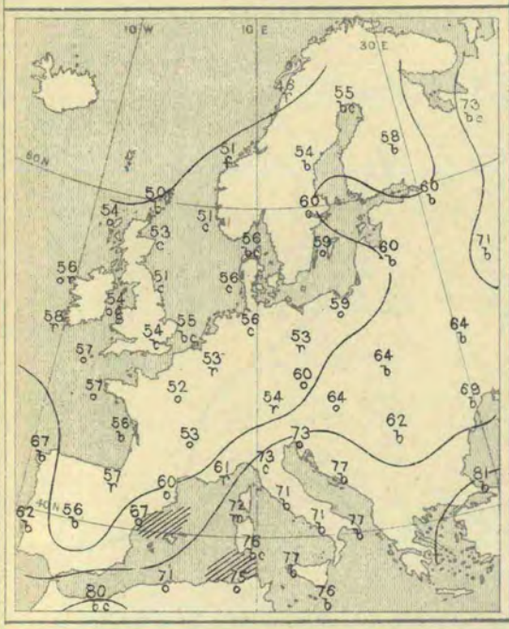
Saturday, 12th July.

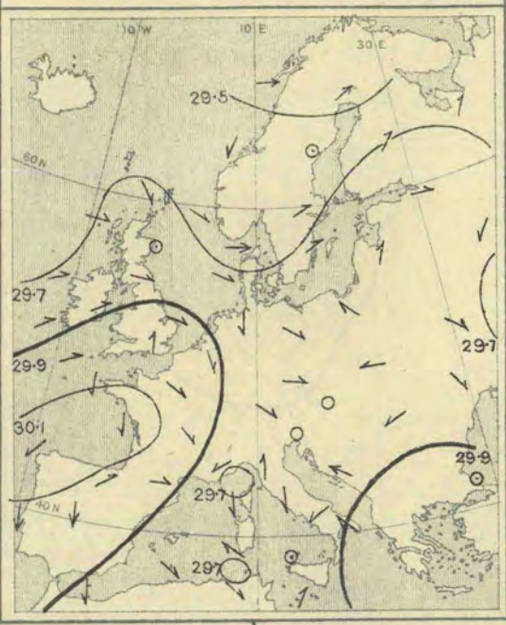
Temperature and Weather.

8 a.m.

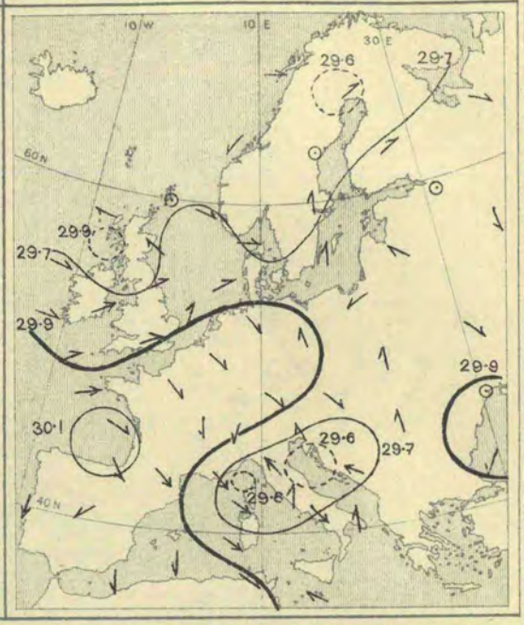


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the northern and eastern parts of Great Britain, as well as in Scandinavia, Denmark, Russia, and the greater part of southern Europe. Cloudy or overcast elsewhere, with rain in Ireland, the south-west of England, Belgium, and the south of France. Solar halos reported in many parts of England. Rain falling during day over nearly the whole of the United Kingdom; thunderstorms occurring in Austria, Italy, and Tunis.

Temperature highest, 81° at Constantinople and Tunis, 80° at Oran, 78° at Sfax, and 77° at Lesina, Brindisi, Pesaro, and Palermo; above 70° in Russia, and as high as 73° even at Archangel. Lowest, 48° at Malin Head, 49° at Parsonstown, and 50° at Sumburgh Head and Le Mans; below 55° in nearly all parts of the United Kingdom and France. Daily maxima very little above 60° in any part of western Europe, but thermometer rising above 80° in Austria, Italy, and Algeria.

Wind light or moderate from the South-Westward or Westward over the greater part of our Islands, as well as in Sweden and the north of Russia, but light from the Southward in the north of Ireland. Light from North-west in Germany, France, and Algeria, and from North in Spain and central Italy; Easterly in Poland and Austria, variable in the south of Russia. Subsequently veering to the Westward in Ireland; strong cyclonic circulation setting in over Italy, the south of France, and the neighbouring parts of the Mediterranean.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying over the Bay of Biscay, the west of France, and the north of Spain, 29·9 ins. and upwards over south-eastern Europe. Lowest, 29·5 ins. and less, over the north of Scandinavia, 29·7 ins. and less in a depression lying off the north-west of our Islands, and also in small disturbances lying over the Gulf of Genoa and to the southward of Sardinia. Depression in north-west subsequently spreading eastwards over Scotland.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week the weather over Europe, and especially over the more northern and central countries, has continued in a cold, rainy, and, at times, thundery condition. The wind has been mainly Northerly to North-Westerly over the western countries, very variable over Germany, Southerly over the northern half of Russia. Pressure has been almost continuously highest either over the Bay of Biscay or the south-western and southern countries; several depressions have passed from the Atlantic across our Islands and the North Sea to Scandinavia and the Baltic, and after Thursday these were supplemented by other disturbances over southern and south-eastern Europe. At the close of the week, however, the high-pressure system over the Bay of Biscay began to spread eastwards across France and Germany, and the appearance of the weather in those countries and over England showed some indications of improvement.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Part I.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March,** *price* 4d.
SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 29.] *Third Series.* WEEK ENDING SATURDAY, 19TH JULY, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 170.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	64	37	58·9	45·9	51·9	3 below.	69	−15	0	0	942	+ 67	438	− 72
	1. SCOTLAND, EAST -	70	40	62·1	48·5	54·9	2 below.	90	−15	0	0	1141	− 47	485	− 58
	2. ENGLAND, N.E. - -	72	46	64·0	52·1	57·7	2 below.	110	− 5	0	0	1225	− 33	389	− 93
	3. ENGLAND, EAST -	75	48	68·9	54·2	61·0	1 below.	133	+ 7	0	0	1431	− 61	468	− 39
	4. MIDLAND COUNTIES	75	41	68·0	51·9	59·4	2 below.	122	− 1	0	0	1424	− 82	478	− 26
	5. ENGLAND, SOUTH -	76	45	67·4	55·4	61·0	1 below.	133	+ 1	0	0	1552	− 57	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	69	41	62·9	49·2	55·6	2 below.	95	−11	0	0	1244	− 11	325	− 73
	7. ENGLAND, N.W. -	70	48	64·5	52·9	58·3	2 below.	114	+ 1	0	0	1327	− 1	302	− 81
	8. ENGLAND, S.W. -	71	47	63·1	52·5	57·5	3 below.	109	−12	0	0	1479	− 59	245	+ 12
	9. IRELAND, NORTH -	70	36	63·5	49·6	56·0	3 below.	93	− 7	0	0	1305	− 26	295	− 55
	10. IRELAND, SOUTH -	73	43	64·5	50·7	57·1	3 below.	106	− 9	0	0	1519	− 16	225	− 14
	— CHANNEL ISLANDS -	72	53	63·7	55·6	59·4	2 below.	122	− 4	0	0	1687	+ 43	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 170.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	5	10	4 more.	140	+15	26·5	+ 0·4	27	23	668	−121	25	− 4
	1. SCOTLAND, EAST -	5	7	0 (average).	121	+17	16·5	+ 0·3	33	27	772	−116	29	− 4
	2. ENGLAND, N.E. - -	3	5	1 less.	102	+ 1	12·1	− 1·7	31	27	700	−117	27	− 4
	3. ENGLAND, EAST -	4	23	17 more.	109	+ 6	14·5	+ 1·6	39	35	909	− 87	35	− 3
	4. MIDLAND COUNTIES-	3	10	4 more.	100	− 2	12·4	− 2·5	36	32	788	− 85	30	− 3
	5. ENGLAND, SOUTH -	4	16	11 more.	103	+ 6	16·3	+ 2·2	31	28	836	− 92	32	− 3
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	3	8	3 less.	121	+ 6	26·7	− 0·5	45	39	825	− 22	31	− 1
	7. ENGLAND, N.W. - -	3	5	2 less.	113	+ 8	16·8	− 0·1	34	30	762	− 92	29	− 3
	8. ENGLAND, S.W. - -	5	14	6 more.	119	+ 8	20·8	− 1·1	28	25	882	−106	34	− 4
	9. IRELAND, NORTH -	4	6	1 less.	131	+ 4	17·0	− 1·4	40	35	820	+ 12	31	0
	10. IRELAND, SOUTH -	4	6	1 less.	131	+11	23·3	+ 2·4	46	41	852	− 53	33	− 1
	— CHANNEL ISLANDS -	4	17	12 more.	124	+ 5	20·3	+ 3·8	33	30	1034	−130	40	− 5

General Remarks.

Weather, after a temporary improvement over England during the first half of the week, again fell into a very unsettled and changeable condition generally. During the night of the 17th–18th severe thunderstorms and extremely heavy rains were experienced over the more southern parts of England, and on the 19th further heavy falls occurred, especially over the eastern parts of Norfolk.

Temperature has again been below the mean, but the deficit has been much less than that of last week, ranging from only 1° in "England E." and "S." to 2° or 3° in most other districts. The highest of the maxima, which were recorded on the 13th over the northern parts of the Kingdom, and on the 16th elsewhere, varied from 64° in "Scotland N." to 75° in "England E." and the "Midland Counties," and 76° in "England S." The lowest of the minima were registered on somewhat irregular dates, and ranged from 36° in "Ireland N.," 37° in "Scotland N.," and 40° in "Scotland E.," to 48° in "England E." and "N.W." and to 53° in the "Channel Islands."

Rainfall has been rather less than the mean in Ireland, "England N.E.," "Scotland W.," and "England N.W.;" in all other districts, however, an excess is shown, that in "England E.," "England S.," and the "Channel Islands" being very large. The fall during the evening and night of the 17th amounted to more than 1·5 ins. at several of our southern stations; in London 1·3 ins. was measured, at Southampton 2·1 ins., at Ingatestone 2·4 ins., and at Rothamsted 2·5 ins. Still larger amounts are reported by the newspapers as having fallen in the western and northern suburbs of London.

Bright Sunshine has again been very little prevalent generally, but shows a decided increase over Ireland. The percentage of the possible amount ranged from 23 in "Scotland N." to 39 in "Scotland W." and 41 in "Ireland S."

Barometer and Wind.—During the earlier part of the period the barometer was highest in the south, while depressions, moving north-eastwards, skirted our north-western and northern coasts. After the 16th, however, the distribution of pressure became more complex, a shallow disturbance advancing eastwards from the Atlantic over the north of France and then north-eastwards to the south-east of England, causing the heavy rainfall noted above. As this system travelled away over the North Sea another small disturbance reached the south-east of England from the north-westward, and the accompanying rainfall was considerable over the midland counties and heavy in Norfolk. Moderate or fresh South-Westerly winds were prevalent during the early days of the week, but subsequently they became light and variable, and finally moderate from the Northward or North-Westward. A Northerly gale was felt temporarily at Yarmouth early on the 19th.

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III.—DATA from which the SUMMARY on page 169 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	58	46	55·9	47·3	51·3	—2·2	65	0	3	0·83	+0·35	*	*
	Stornoway	62	40	58·3	47·9	52·7	—1·8	75	0	7	0·95	+0·26	29·8	25
	Wick	64	39	61·1	44·0	52·0	—3·2	70	0	4	0·66	+0·16	*	*
	Lairg ℌ	63	37	59·9	44·9	51·9	—2·8	69	0	4	0·36	—0·35	*	*
	Glencarron ℌ	63	40	59·1	45·3	51·7	—3·0	68	0	5	1·65†	+0·26	?	?
	Fort Augustus ℌ									5	1·66†	?	24·9	21
1. SCOTLAND, E.	Nairn	67	40	62·3	48·1	54·7	—3·0	89	0	4	1·23	+0·64	*	*
	Aberdeen	69	45	61·6	49·0	54·9	—2·3	90	0	6	0·43	—0·17	34·7	29
	Braemar ℌ	66	40	61·0	45·7	52·8	—2·0	76	0	5	0·77	+0·12	23·0‡	19‡
	Ochtertyre ℌ												*	*
	Leith	70	46	64·4	51·4	57·5	—1·1	109	0	3	0·14	—0·50	*	*
	Marchmont ℌ	65	44	61·4	48·4	54·5	—2·0	88	0	5	0·79	0·00	40·0	34
2. ENGLAND, N.E.	Alnwick Castle	67	46	61·3	50·7	55·6	—2·0	95	0	3	0·30	—0·35	*	*
	Durham	71	47	64·6	50·7	57·2	—1·7	106	0	3	0·56	—0·07	33·9	29
	Shields	69	48	62·4	50·6	56·1	—2·3	99	0	3	0·25	—0·34	*	*
	Scarborough ℳ	72	52	64·3	53·4	55·5	—1·1	116	0	3	0·54	—0·08	29·3‡	26‡
	York	72	51	66·7	52·7	59·2	—2·2	120	0	4	1·08	+0·50	30·1	26
	Spurn Head	72	53	64·6	54·6	59·3	—0·9	121	0	3	0·44	?	*	*
3. ENGLAND, E.	Hillington ℳ	75	51	69·9	54·2	61·5	+0·6	137	0	5	1·95	+1·33	39·1	35
	Yarmouth	73	52	65·7	56·0	60·5	—1·0	130	0	4	2·18	+1·57	*	*
	Geldeston	74	51	68·8	54·6	61·2	—0·1	134	0	3	1·78	+1·22	33·2	30
	Cambridge	75	50	71·0	54·3	62·1	—0·5	141	0	4	1·62	+1·10	46·0	41
	Rothamsted	72	48	68·6	52·3	59·8	—2·6	125	0	4	3·11	+2·51	*	*
	Ingatestone	75	49	69·4	53·9	61·1	—1·8	134	0	3	2·99	+2·44	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	74	45	69·4	51·4	59·8	—1·6	125	0	3	0·72	+0·10	30·6‡	27‡
	Loughborough	75	48	71·0	54·3	62·1	—0·1	141	0	3	0·63	+0·10	39·5‡	35‡
	Cheadle ℳ	70	47	66·0	50·3	57·6	—3·0	109	0	4	1·02	+0·32	*	*
	Churchstoke ℳ	70	41	66·1	49·1	57·0	—3·2	105	0	3	0·57	0·00	35·0	31
	Hereford ℳ	74	44	68·8	52·4	60·0	—1·6	126	0	3	0·41	—0·12	*	*
	Cirencester	70	43	66·3	51·0	58·1	—3·0	113	0	5	1·75	+1·06	34·3	31
	Oxford	72	49	68·4	55·0	61·2	—0·3	134	0	3	1·66	+1·08	39·3	35
5. ENGLAND, S.	London	76	50	69·9	55·9	62·4	—0·9	143	0	4	2·28	+1·79	28·4‡	26‡
	Strathfield Turgiss ℳ	74	45	69·3	54·2	61·2	—0·2	134	0	6	2·18	+1·66	*	*
	Dungeness	70	55	66·1	56·4	60·9	—0·8	132	0	4	0·73	+0·31	? 36·8‡	? 33‡
	Hastings (St. Leonards)	73	54	67·3	56·3	61·4	+0·2	136	0	3	0·66	+0·21	41·3	37
	Southampton	75	50	69·3	55·6	62·0	+0·4	140	0	4	2·40	+1·83	29·5	27
	Hurst Castle	69	52	65·4	56·4	60·6	—0·6	130	0	4	1·65	+1·17	*	*
	Stowell ℳ	68	45	64·4	53·2	58·4	—2·2	115	0	5	1·19	?	18·4‡	17‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	65	41	61·5	47·5	54·0	—2·9	84	0	5	2·17†	+0·83	*	*
	Glasgow	69	46	65·3	50·1	57·2	—0·5	106	0	2	0·43	—0·38	42·3	36
	Ardrossan	64	46	61·3	49·9	55·2	—2·5	92	0	3	0·51	—0·15	*	*
	Glenlee ℌ	65	41	63·3	47·4	54·8	—2·7	90	0	5	0·72†	—0·20	*	*
	Douglas (Isle of Man)	67	47	63·2	50·9	56·6	—0·9	102	0	3	0·20	—0·45	47·7	42
7. ENGLAND, N.W.	Newton Reigny													
	Stonyhurst	68	50	63·9	51·7	57·4	—1·7	108	0	4	0·78	—0·24	28·9	25
	Blackpool ℳ	67	50	64·3	53·4	58·5	—1·5	116	0	3	0·50	—0·20	33·4	29
	Manchester	70	48	66·8	51·7	58·7	—1·7	117	0	2	0·59	—0·29	*	*
	Liverpool Obsy. (Bidston)	68	52	65·4	53·7	59·1	—1·6	120	0	4	0·71	+0·03	*	*
	Llandudno ℳ	69	52	65·1	54·0	59·2	—1·5	120	0	3	0·36	—0·26	39·3	35
	Holyhead	66	50	61·6	53·0	57·0	—2·2	105	0	4	0·22	—0·30	*	*
8. ENGLAND, S.W.	Llandovery	69	48	66·6	51·6	58·6	—1·9	116	0	5	0·58	—0·28	*	*
	Pembroke	62	51	60·0	53·4	56·5	—3·5	102	0	5	0·73	+0·21	31·5	28
	Arlington (N. Devon)	64	47	61·7	51·1	56·0	—5·0	98	0	6	1·44	+0·34	*	*
	Cullompton ℳ	70	47	66·3	52·7	59·0	—2·6	119	0	4	1·44	+0·81	30·2	27
	Falmouth	66	51	61·5	53·5	57·2	—4·0	106	0	4	1·85	+1·15	26·3	24
	Plymouth	71	51	64·5	53·5	58·6	—3·1	116	0	5	2·54	+1·95	23·6	21
	Prawle Point	67	50	61·3	52·0	56·3	—3·6	100	0	5	0·88	?	*	*
9. IRELAND, N.	Malin Head	64	48	60·4	51·1	55·4	—1·3	94	0	4	0·96	?	*	*
	Londonderry	70	44	65·5	49·5	56·9	—1·5	104	0	3	0·93	+0·18	*	*
	Mullaghmore	65	45	61·9	50·9	56·0	—3·7	98	0	5	0·73	—0·15	*	*
	Belmullet	62	44	60·4	51·7	55·8	—1·9	97	0	4	0·70	?	*	*
	Markree Castle	68	36	63·4	49·0	55·7	—4·1	96	0	4	1·16	+0·42	43·6	38
	Brookeborough	68	38	63·9	46·5	54·6	—5·5	88	0	2	0·27	?	*	*
	Armagh	69	42	65·5	47·3	55·8	—4·2	97	0	4	0·19	—0·52	36·1	32
	Donaghadee	69	49	65·7	53·0	58·9	+0·6	118	0	4	0·18	—0·42	*	*
	Edgeworthstown	68	40	64·4	47·1	55·2	—4·7	92	0	5	0·53	—0·29	*	*
10. IRELAND, S.	Dublin	73	50	65·4	52·4	58·5	—1·4	116	0	5	0·49	—0·03	50·5	45
	Parsonstown	70	47	65·6	49·0	56·7	—2·6	103	0	5	0·82	+0·13	42·4	38
	Kilkenny	70	43	65·6	48·9	56·6	—3·6	102	0	3	0·50	—0·04	*	*
	Waterford	71	45	66·8	49·6	57·6	—3·2	109	0	3	0·29	—0·34	*	*
	Roche's Point	66	50	63·1	52·4	57·4	—3·5	108	0	3	0·45	—0·27	*	*
	Valencia	64	46	61·7	51·6	56·3	—2·7	100	0	4	0·79	—0·09	44·7	40
	Killarney	67	44	63·3	50·5	56·5	—3·0	102	0	4	0·93	?	*	*
	Foynes	71	47	64·5	51·1	57·3	—2·1	107	0	4	0·64	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	64	53	60·3	54·1	57·0	—3·7	105	0	4	1·72	+1·20	*	*
	Jersey	72	54	67·1	57·1	61·8	+0·1	139	0	3	1·62	+1·12	32·8	30

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

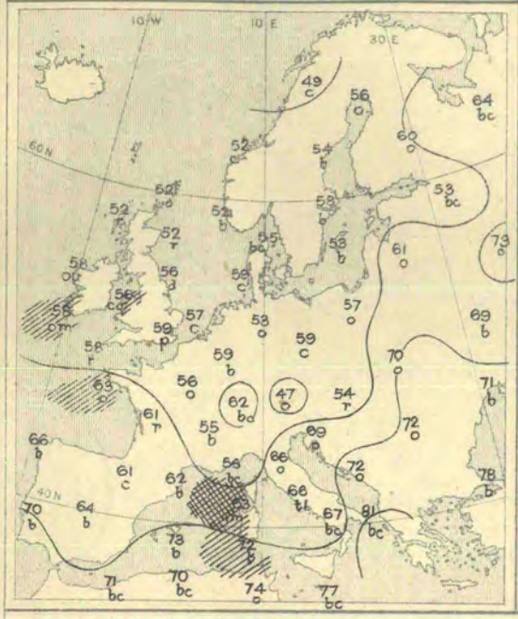
† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 13th July.

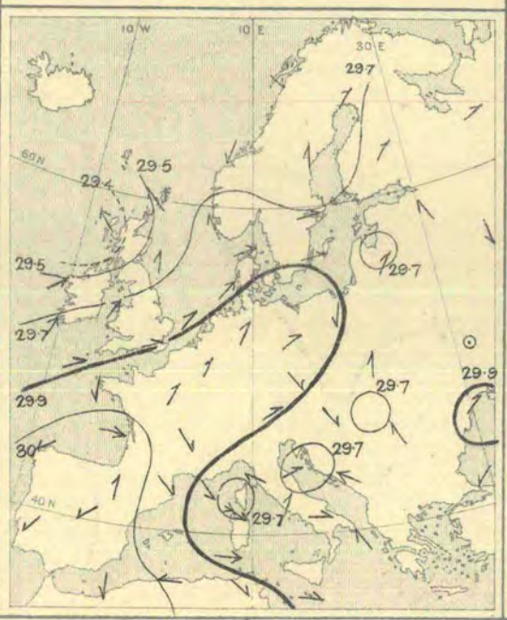
Temperature and Weather.

8 a.m.

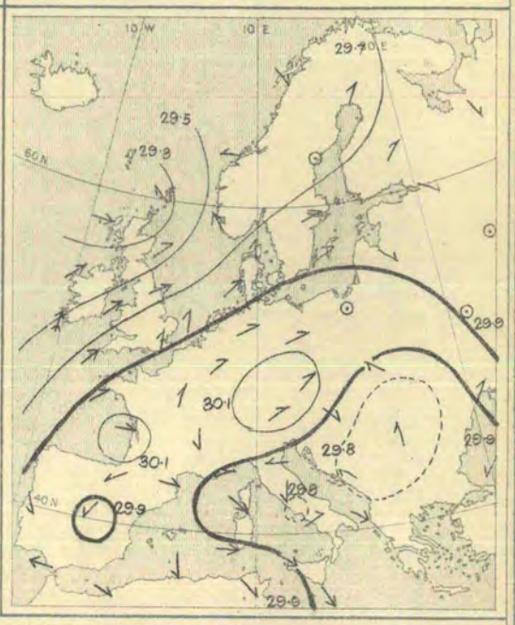


Barometer and Wind.

8 a.m.



6 p.m.



Weather rainy in the north and north-west of our Islands, as well as over the Gulf of Finland, and at many of the German and Austrian stations; foggy over the English and Bristol Channels. Fair or fine in most other localities, but a thunderstorm reported at Rome. Improvement taking place later in the northern parts of the United Kingdom, but rain falling in the west, and fog continuing at the mouths of the Bristol and English Channels.

Temperature highest, 81° at Brindisi, 78° at Constantinople, and 77° at Malta; above 70° over the whole of Algeria, eastern Europe, and the central parts of the Mediterranean, and also over central Russia. Lowest, 47° at Munich, 49° at Bodö, 51° at Wick and Breslau, and 52° at Christiansund, Skudesnaes, Sumburgh Head, Stornoway, Nairn, and Aberdeen; below 60° in the south of France. Thermometer subsequently rising above 70° over the central and eastern parts of Great Britain, and reaching 75° at Loughborough. Exceeding 90° at some of the Spanish and Algerian stations, the highest reading of all being 97° at Biskra.

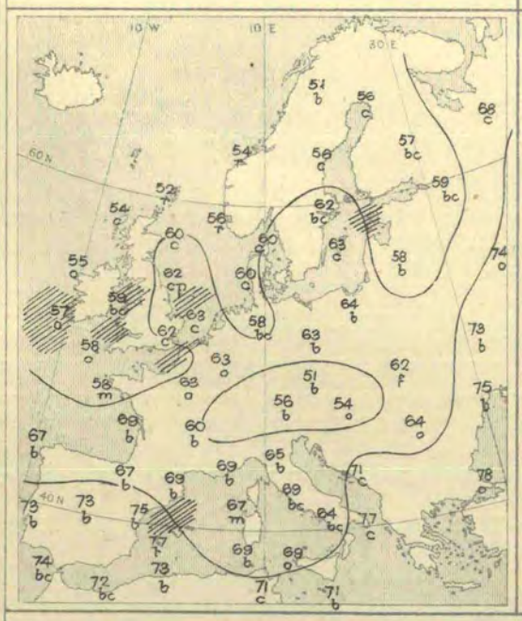
Wind South-Westerly over Ireland, England, the Netherlands, Germany, and Denmark; fresh in force on our western coasts. South-Easterly in Scotland, and Southerly over the northern parts of Sweden and Russia, variable in the west of Norway, Northerly in the north and east of Germany, and also over the Iberian Peninsula. Cyclonic circulation reported over Italy, the south of France, and the adjacent parts of the Mediterranean; North-Westerly winds strong to a gale in Corsica. Subsequently backing to the Southward in the west of Ireland and increasing to a gale.

Barometer highest, 30·1 ins. and upwards, over Spain and the south-west of France. Lowest, 29·4 ins. and less, in a depression lying off the west of Scotland; low, 29·7 ins. and less, in three other disturbances, lying respectively over the Gulf of Genoa, the northern parts of the Adriatic, and over Hungary. Depression off the west of Scotland subsequently travelling northwards, but new disturbance approaching our western coasts. Low-pressure systems over southern Europe partially filling up.

Monday, 14th July.

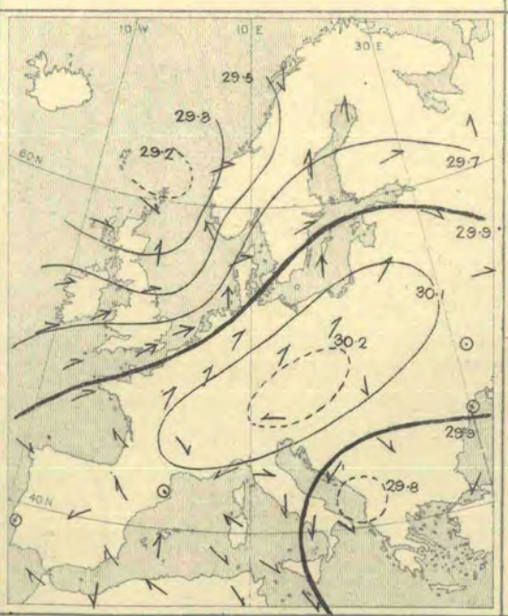
Temperature and Weather.

8 a.m.

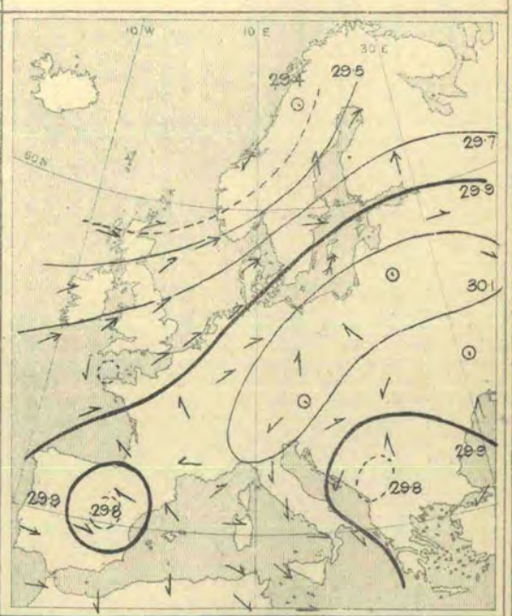


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the eastern and central parts of Great Britain, as well as at many of the Continental stations, but dull and showery in the west and north of our Islands, and rainy in Austria and the west of Norway. Showers falling later in many parts of Great Britain, but weather improving at our western and northern stations, as well as in Austria.

Temperature highest, 78° at Constantinople, 77° at Palma and Brindisi, 75° at Barcelona, Odessa, and Nicolaieff, and 74° at Oporto, San Fernando, and Moscow. Below 55° in the extreme north and north-west of our Islands, as well as in the west of Norway, Poland, and some parts of Germany and Austria, the lowest readings of all being 51° at Bodö and Prague and 52° at Sumburgh Head, Warsaw, and Cracow. Thermometer rising during day to a little above 70° over eastern England, to 80° or more in Italy, and to 90° or more in the west of France and the central parts of Spain and Algeria.

Wind moderate to strong from the South-Westward or Westward over the greater part of the United Kingdom, and from the Southward over Scandinavia and Denmark. Light from the South-Eastward or Eastward in the west and south of France, and from the North-Westward over Austria, Italy, and Tunis; variable in Spain and Algeria, calm in the south of Russia. No important change occurring during day.

Barometer highest, 30·1 ins. to 30·2 ins. and more, in an elongated anti-cyclone, extending from the Baltic Provinces to central France. Lowest, 29·2 ins. and less, in a small depression lying to the northward of the Shetlands, 29·8 ins. and less in shallow disturbances, lying respectively over Montenegro and Asia Minor. Depression in north subsequently travelling away north-eastward, but shallow system appearing over central Spain.

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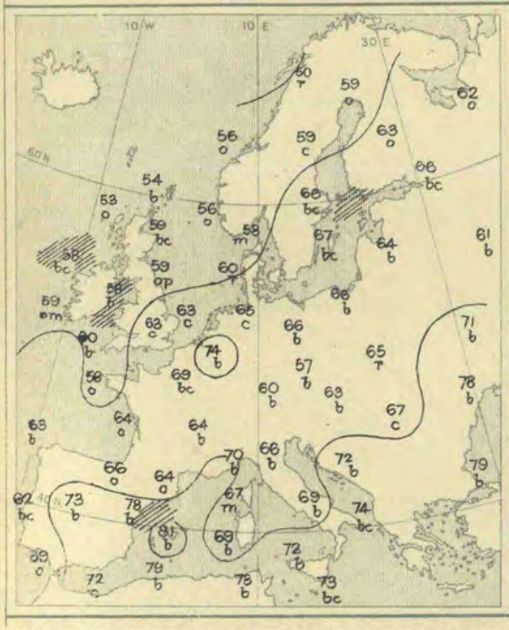
Tuesday, 15th July.

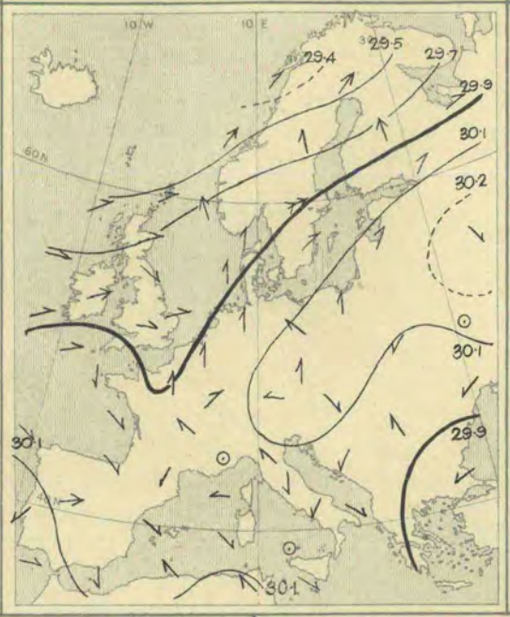
Temperature and Weather.

8 a.m.

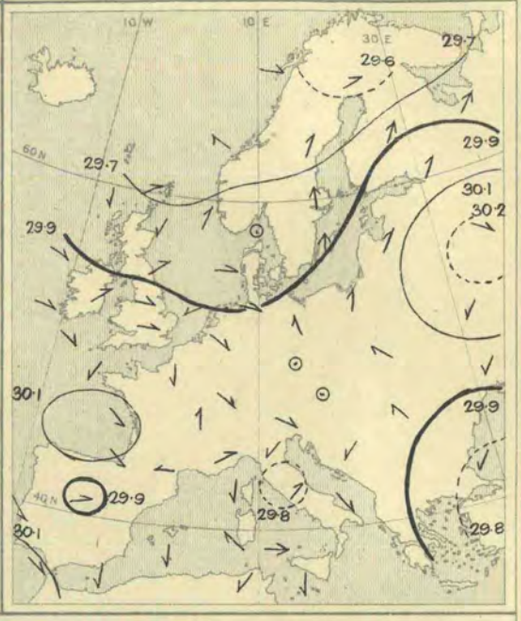


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of our Islands and the Continent, dull over Scandinavia and Finland, rainy at Bodö. Rain falling later at several of the western and northern stations, and thunderstorms occurring in Scotland as well as over the central and southern parts of France.

Temperature highest, 81° at Palma, 79° at Nicolaieff, Constantinople, and Algiers, and 78° at Barcelona and Odessa; above 70° over the greater part of southern and eastern Europe, and above 60° at many of the English stations. Lowest, 50° at Bodö, 53° at Stornoway, 54° at Sumburgh Head, and 55° at Ardrossan, Malin Head, and Mullaghmore. Subsequently rising to a little above 70° over the inland parts of England, and exceeding 80° in France, Germany, Austria, and southern Italy, and exceeding 100° in some parts of Algeria.

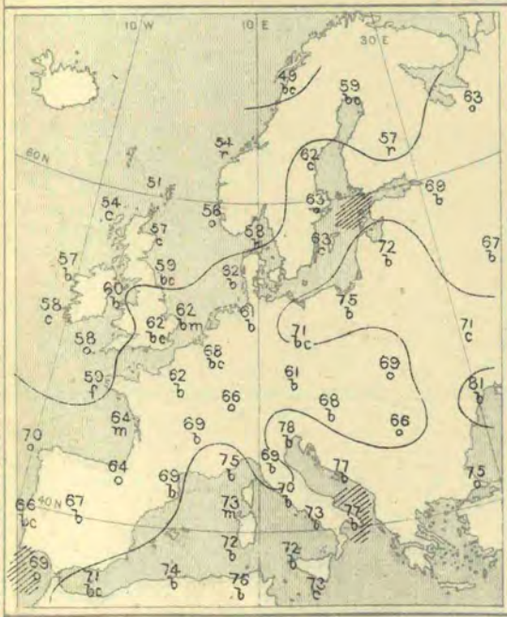
Wind light to fresh from the Westward or South-Westward over our Islands; light from South over the Netherlands, Denmark, and the Baltic; strong from the South-Westward over Scandinavia and Finland. Light from the North-Westward at many of the French, Spanish, and Italian stations, and from the North-Eastward in Austria, and variable over the southern parts of Germany and Russia. Subsequently veering to the Northward in the north of our Islands and at Paris, but blowing rather strongly from the Southward on the Swedish coasts.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over central Russia, 30·1 ins. and upwards over Poland and Austria, as well as in another system lying over the west and south of the Iberian Peninsula. Lowest, 29·4 ins. and less, over the north of Norway, 29·8 ins. and less over Asia Minor. Steady rise of barometer taking place over western Europe during day, and small new anti-cyclone appearing over Bay of Biscay, but a small depression over central Spain.

Wednesday, 16th July.

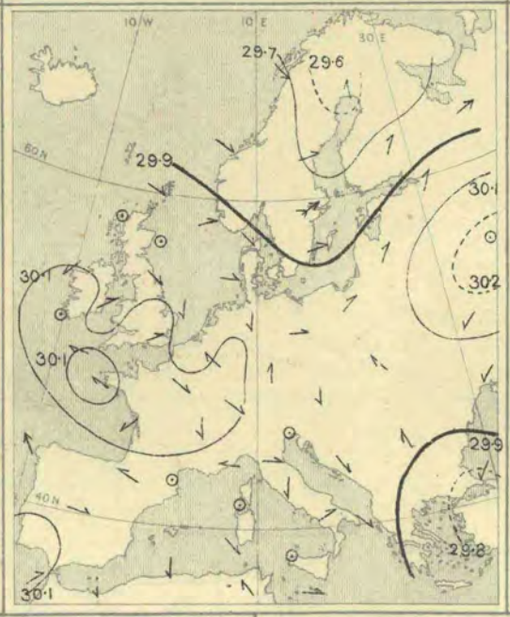
Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.



6 p.m.

Weather in morning fine and bright over south-western, southern, central, and eastern Europe: fair over the greater part of the British Islands also, but cloudy in places; cloudy over Scandinavia and Finland, with rain at several stations. Rain later in many parts of England, Germany, and some parts of France; amounts large at Scilly, Liverpool, York, Wiesbaden, and Belfort. Sky assuming unsettled appearance in the south of England and over France generally.

Temperature changing fitfully and very irregularly distributed. Morning readings exceeding 80° at Odessa and Nicolaieff, and exceeding 70° all over southern Europe, as well as at Constantinople, Buda Pesth, over north Germany, and the Baltic Provinces. Much lower over north-western Europe, as low as 48° at Bodö, 51° at Sumburgh Head, and 52° to 55° over the greater part of Scotland and Ireland. Daily maxima, 70° to 76° over England, very variable (64° to 86°) over France and Germany; above 80° in central Algeria.

Wind Westerly to South-Westerly over northern Europe and blowing a gale at Stockholm; extremely variable elsewhere, and light, except at Corunna, where it was strong from South-South-East. Cyclonic circulation of light winds over England and France later, North-Westerly breezes in the north of Scotland

Barometer highest, 30·1 ins. to 30·2 ins. and more, over central Russia, and varying between 30·0 ins. and 30·1 ins. over Germany, France, Spain, Ireland, and south of England. Distribution over latter regions, however, very irregular. Lowest, 29·6 ins. and less, in a depression over Lapland, 30·0 ins. and less over the north of Spain. Large shallow depression advancing towards France later and spreading over England

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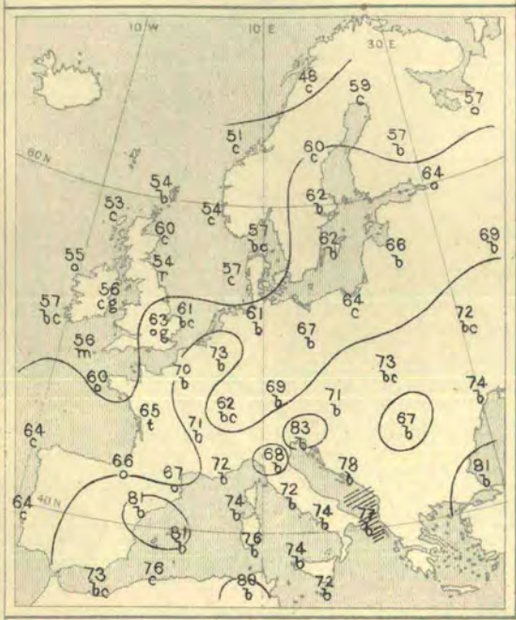
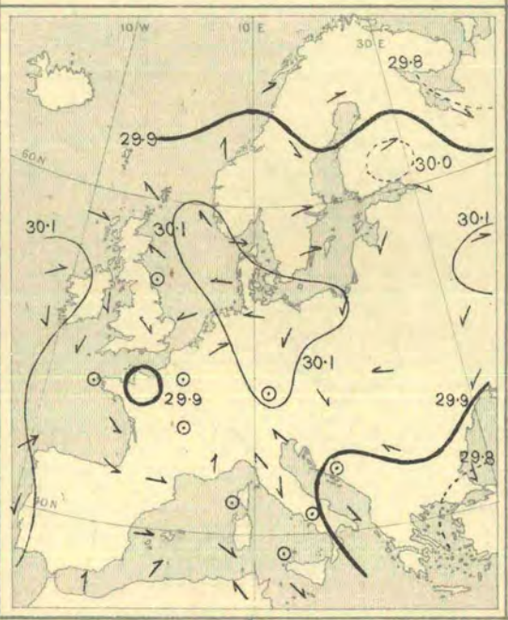
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 17th July.

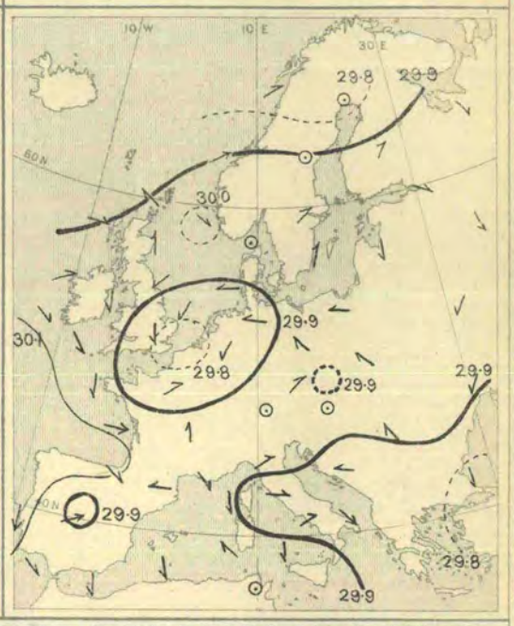
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over Ireland, Scotland, and nearly the whole of the Continent. Dull in England and the west of France, with rain in many places, and thunderstorms at Prawle Point, Lorient, and Rochefort. Smart thunderstorms occurring later over the whole of the south of England and the north of France, with exceedingly heavy rain in places. Largest amounts reported next morning at our own stations, 1·8 ins. in London and 1·4 ins. at Jersey and Hurst Castle, but 2·8 ins. measured at Slough, 3·3 ins. at Egham, and 3·4 ins. at Maidenhead.

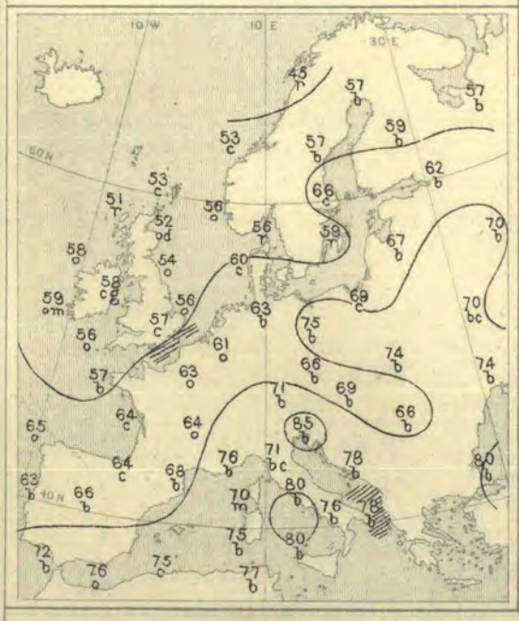
Temperature highest, 83° at Trieste, 81° at Barcelona, Aumale, and Constantinople, and 80° at La Calle: above 70° in Belgium, Italy, Austria, and the southern parts of France and Russia. Lowest, 48° at Bodö, 51° at Christiansund, 53° at Stornoway, and 54° at Skudesnaes, Sumburgh Head, Shields, and Parsonstown. Rising during day to 70° or more at some of the English stations, to 80° or more over the greater part of central and southern Europe, and to 90° or more at several stations in Austria, Italy, Algeria, and the south of France.

Wind light from the North-Eastward over the greater part of England, from the Northward in Ireland, and from the North-Westward in the west of France. Variable in Scotland, South-Westerly over Finland and the greater part of Scandinavia, light from North-East in the south of Russia, and from North-West in Austria, Italy, and the central parts of the Mediterranean, Southerly in Algeria. Subsequently backing to the Westward in the extreme west and north of our Islands, and also over the English Channel.

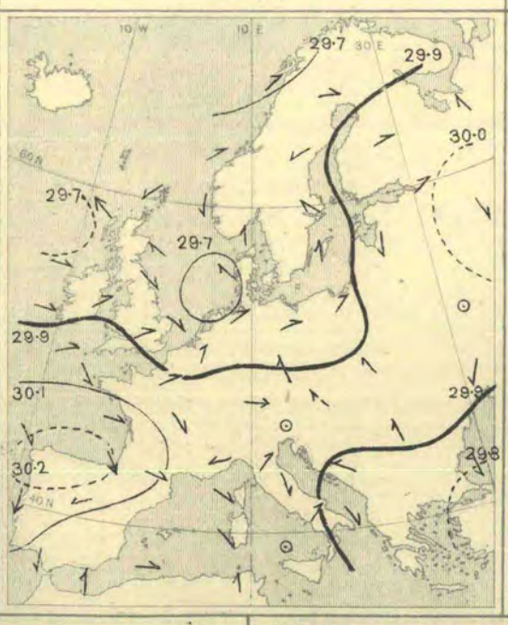
Barometer highest, 30·1 ins. and upwards, in three distinct areas, one lying to the westward of our Islands and Portugal, another over Germany, Denmark, and the eastern parts of the North Sea, and a third over central Russia. Lowest, 29·8 ins. and less, over the White Sea, and also over Asia Minor; 29·9 ins. and less in a well-defined but shallow depression lying over the north of France. Depression subsequently moving north-eastwards to the Straits of Dover: new disturbance beginning to approach the north-west of Scotland.

Friday, 18th July.

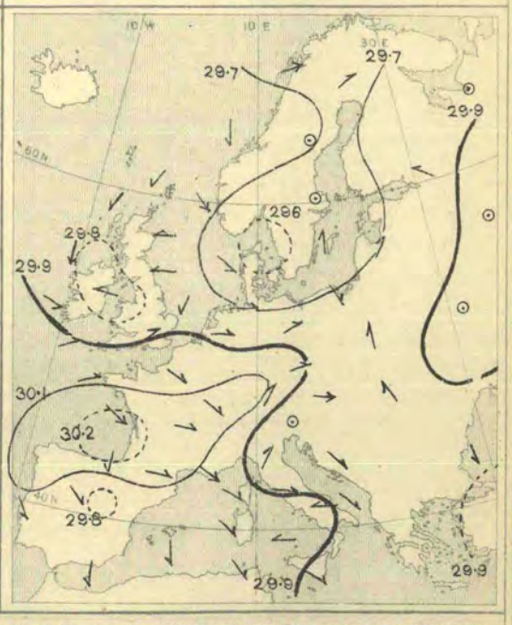
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair over the central and southern parts of England and fine at most of the Continental stations. Rainy over Ireland, Scotland, the North Sea, and some parts of Scandinavia. Rainy weather extending later to nearly all parts of our Islands and France; further large amounts reported over the south and south-east of England, the north-east of France, and all countries lying to the eastward of the North Sea. No thunder reported.

Temperature highest, 85° at Trieste, 82° at Barcelona, and 80° at Rome, Palermo, and Constantinople; above 70° in many parts of central, southern, and eastern Europe. Lowest, 45° at Bodö, 51° at Stornoway, 52° at Aberdeen, and 53° at Parsonstown; below 60° in nearly all parts of our Islands and Scandinavia. Daily maxima below 60° at some of our western and northern stations, and below 70° over our Islands generally, but thermometer exceeding 90° in some parts of France and over Italy, and rising to 100° and more in several parts of Algeria.

Wind light or moderate from the North-Westward or Westward over the greater part of England and France, and from the Northward in Spain. Southerly or South-Easterly in the northern parts of the United Kingdom, as well as over Denmark, the south of Scandinavia, Austria, and eastern Germany. South-Westerly in Finland and the north of Scandinavia, variable in Algeria, Italy, and the south of Russia. Subsequently backing to the South-Westward over the south of England, but veering to the North-Westward in Ireland.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over the north of Spain, 30·0 ins. and upwards over central Russia. Lowest, 29·7 ins. and less, in three depressions, one lying to the north-westward of Norway, another over the North Sea (with its centre near the Dogger Bank), and the third off the west of Scotland. North Sea disturbance subsequently travelling north-eastward to the south of Sweden, and the low-pressure system off our north-west coasts moving south-eastwards over Ireland.

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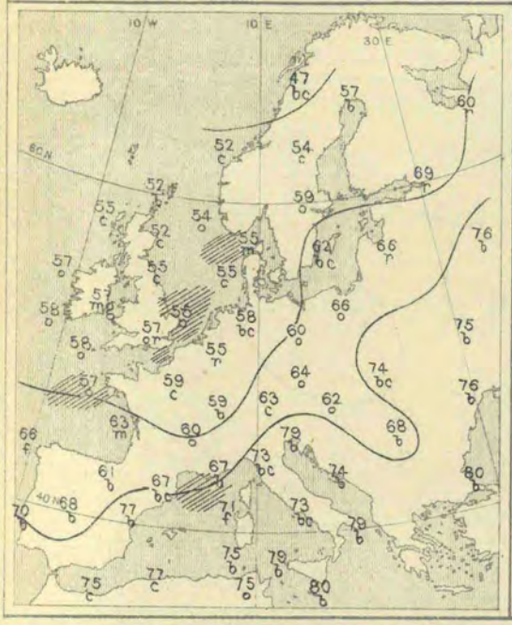
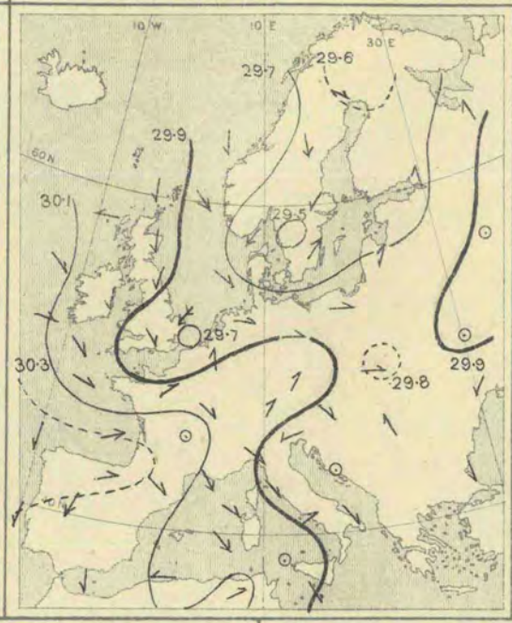
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 19th July.

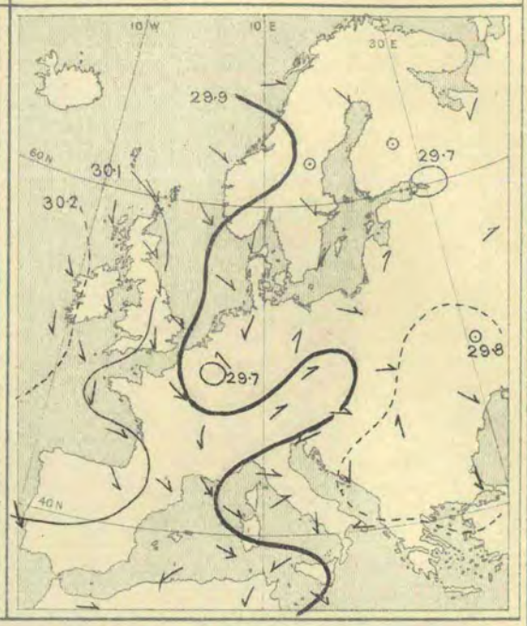
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright over south-eastern and southern Europe generally, and beginning to clear in many parts of Ireland and Scotland, as well as in Lapland; cloudy, changeable, and very unsettled elsewhere, with much rain in the Baltic Provinces and over the south-eastern counties of England. Considerable falls of rain later over the Netherlands, the extreme east of England, and some parts of France, and smaller quantities over northern Europe.

Temperature in morning as high as 80° at Malta, Constantinople, and Pesaro, and exceeding 70° at most stations over southern and south-western Europe, as well as at Moscow. Very low over the north-western countries, lowest of all being 47° at Bodö, 53° at Christiansund, Sumburgh Head, and Aberdeen, and 54° at Skudesnaes, Nairn, and Spurn Head. Rising during day to between 60° and 67° over the United Kingdom, and to rather above 80° over the southern parts of France. Exceeding 90° at a few of the Italian stations, and touching 104° at Biskra and Laghouat.

Wind North-Westerly to North-Easterly over the greater part of the British Isles and North Sea, and blowing a gale both at Faerder and Yarmouth; Northerly, moderate, over Spain, Westerly and South-Westerly over France and Germany, South-Westerly over the Baltic, variable elsewhere. Gale subsiding in the east later, and light Northerly breezes becoming general over the United Kingdom.

Barometer highest, 30·3 ins. to 30·4 ins., over Spain and the southern half of France, 30·0 ins. and more over Ireland, Scotland, and also over central Russia. Lowest, about 29·5 ins., in a depression over the south of Sweden, about 29·7 ins. in another off the mouth of the Thames, and rather below 29·8 ins. in a third near Lemberg. Barometer rising over the British Islands all day; depression off our east coast moving eastwards towards Germany, that over Sweden filling up. Pressure over south-eastern Europe giving way steadily.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the earlier part of this week there was a considerable improvement observed in the weather over the greater part of the Continent, the North Sea, and England, the rainfall reported being confined to Ireland, Scotland, and Scandinavia. This was brought about by the steady extension of the high-pressure area, from the Bay of Biscay, across France and Germany to Russia, and the consequent removal of the low-pressure systems to the extreme north-western and northern districts.

On Wednesday, however, the high-pressure area began to break up, and a very shallow depression was developed over the Atlantic, near to Ushant. This gradually increased in size and intensity as it moved eastwards across France and north-eastwards across the North Sea, and brought with it exceptionally heavy falls of rain, and to many places severe thunderstorms. Its centre reached the Straits of Dover on the evening of Thursday, 17th, and the Sound by the following morning, after which the system appears to have filled up. It was succeeded rapidly by another disturbance, which moved across the British Islands from the north-westward on Friday and reached Belgium on the following day. A renewal of the rain was caused by this disturbance (the fall being heaviest over the east of England and the Low Countries), but no thunder was reported. At the close of the week the barometer was rising over western and north-western Europe, and the weather, though very cold for the time of year, was improving.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of each Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
Week ending June 28th	Cambridge	—	—	—	—	—	—	—	—	—	—	—	41·3	36

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 30.] *Third Series.* WEEK ENDING SATURDAY, 26TH JULY, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 176.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	69	37	60·1	46·8	53·0	2 below.	77	−10	0	0	1019	+ 62	438	− 72
	1. SCOTLAND, EAST -	75	37	65·8	47·9	56·2	1 below.	99	− 8	0	0	1240	− 49	485	− 58
	2. ENGLAND, N.E. - -	74	42	67·3	51·2	58·7	1 below.	117	+ 1	0	0	1342	− 24	389	− 93
	3. ENGLAND, EAST -	75	42	69·2	51·2	59·6	2 below.	123	− 5	0	0	1554	− 59	468	− 39
	4. MIDLAND COUNTIES	76	43	69·2	52·2	60·1	1 below.	127	+ 3	0	0	1551	− 76	478	− 26
	5. ENGLAND, SOUTH -	78	45	69·6	53·4	60·9	1 below.	132	− 2	0	0	1684	− 56	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	69	40	63·7	51·5	57·2	0 (average)	106	− 2	0	0	1350	− 13	325	− 73
	7. ENGLAND, N.W. -	72	37	65·4	53·4	59·0	1 below.	119	+ 3	0	0	1444†	+ 2	302	− 81
	8. ENGLAND, S.W. -	75	37	67·3	54·8	60·6	0 (average)	130	+ 7	0	0	1609	− 53	245	+ 12
	9. IRELAND, NORTH -	73	43	63·6	53·5	58·0	1 below.	112	+ 4	0	0	1417	− 19	294†	− 56
	10. IRELAND, SOUTH -	76	47	66·3	55·3	60·5	1 above.	130	+13	0	0	1649	− 4	224†	− 15
	— CHANNEL ISLANDS -	68	55	63·9	55·9	59·6	2 below.	123	− 8	0	0	1810	+ 37	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 176.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	9	0 (average).	146	+18	27·4	+ 0·4	19	17	687	−136	25	− 4
	1. SCOTLAND, EAST -	3	3	4 less.	124	+17	16·8	− 0·1	43	38	815	−112	30	− 3
	2. ENGLAND, N.E. - -	3	2	4 less.	105	0	12·3	− 2·1	47	42	747	−105	27	− 4
	3. ENGLAND, EAST -	2	1	5 less.	111	+ 4	14·6	+ 1·1	53	48	962	− 78	35	− 3
	4. MIDLAND COUNTIES-	3	3	3 less.	103	− 3	12·7	− 2·8	49	44	837	− 74	31	− 2
	5. ENGLAND, SOUTH -	2	1	4 less.	105	+ 5	16·4	+ 1·8	51	47	887	− 85	33	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	5	9	2 less.	126	+ 8	27·6	− 0·7	38	34	863	− 22	32	0
	7. ENGLAND, N.W. - -	5	8	1 more.	119†	+10	17·6	0·0	40	36	802	− 89	29	− 3
	8. ENGLAND, S.W. - -	3	2	6 less.	122	+ 7	21·0	− 1·6	34	31	916	−123	34	− 4
	9. IRELAND, NORTH -	6	6	1 less.	137	+ 6	17·6	− 1·6	20	18	840	+ 1	31	+ 1
	10. IRELAND, SOUTH -	4	5	2 less.	134†	+11	24·0†	+ 2·4	21	19	873	− 70	32	− 3
	— CHANNEL ISLANDS -	2	less than half.	5 less.	126	+ 3	20·3	+ 3·2	30	28	1064	−159	39	− 6

General Remarks.

Weather has been, upon the whole, considerably finer than for many weeks past, although showers have been somewhat frequent in the western and northern districts.

Temperature has been 1° or 2° below the mean in most districts, but in "England S.W." there has been no appreciable departure from the normal, while in "Ireland S." a slight excess has occurred. The highest readings, which were observed on various dates in the different districts, ranged from 78° in "England S." and 76° in the "Midland Counties" and "Ireland S.," to 69° in "Scotland N." and 68° in the "Channel Islands." In Ireland the daily maxima have been frequently below 65°, while in the north of Scotland the thermometer has on some occasions failed to reach 60°. The lowest of the minima, which were recorded either at the commencement or at the end of the week, ranged from 37° in "Scotland N.," "Scotland E.," "England N.W.," and "England S.W.," to 45° in "England S.," 47° in "Ireland S.," and 55° in the "Channel Islands."

Rainfall has been less than the mean in all districts excepting "Scotland N." and "England N.W." In the former district the amount was just equal to the average, while in the latter it was slightly in excess.

Bright Sunshine.—In Ireland and the west and north of Scotland the amount of bright sunshine has been less than that recorded during the previous weeks, the proportion of the possible amount being as low as from 17 to 19 per cent. Over England and the east of Scotland, however, there has been a marked increase, the percentage values being as high as 47 in "England S." and 48 in "England E."

Barometer and Wind.—During the earlier half of the week an anti-cyclone extended from the Atlantic over England, Ireland, and France, while a large depression moved slowly eastwards across Scandinavia. The winds over our Islands were therefore Westerly and North-Westerly, and light or moderate in force. On the 24th, however, the anti-cyclone moved eastwards, and during the latter part of the time depressions of considerable size, but of no great depth, travelled north-eastwards along our western and northern coasts. The wind, therefore, backed to the South-Westward and the weather became less settled generally.

† This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 175 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	60	44	56·3	47·4	51·5	−2·2	67	0	7	0·40	−0·10	*	*
	Stornoway ⚓	63	40	59·7	48·0	53·4	−1·3	80	0	6	0·77	+0·08	24·2	21
	Wick ⚓	64	42	60·9	45·3	52·6	−2·8	74	0	5	0·72	+0·21	*	*
	Lairg ⚓	69	37	61·2	45·4	52·8	−2·1	76	0	6	0·43	−0·27	*	*
	Glencarron ⚓	61	42	58·0	47·1	52·2	−2·7	71	0	6	2·24†	+0·84	?	?
	Fort Augustus ⚓	68	41	64·4	47·4	55·3	−2·4	93	0	4	0·65†	?	13·9	12
1. SCOTLAND, E.	Nairn ⚓	71	41	65·1	47·7	55·8	−2·0	97	0	3	0·36	−0·24	*	*
	Aberdeen ⚓	70	42	64·9	48·7	56·2	−1·0	99	0	3	0·23	−0·43	46·4	40
	Braemar ⚓	70	37	62·4	45·2	53·2	−1·6	78	0	3	0·56	−0·14	40·5‡	35‡
	Ochtertyre ⚓	75	43	68·7	49·0	58·2	+0·2	113	0	3	0·14	−0·62	*	*
	Leith ⚓	71	45	68·0	48·9	57·8	−0·7	111	0	2	0·23	−0·40	43·4	38
	Marchmont ⚓	72	42	65·6	47·9	56·1	−0·5	99	0	1	0·09	−0·69	42·0	37
2. ENGLAND, N.E.	Alnwick Castle ⚓	72	47	66·4	51·9	58·7	+1·1	117	0	0	—	−0·68	*	*
	Durham ⚓	74	44	69·4	49·5	58·8	+0·2	118	0	4	0·12	−0·51	48·2	43
	Shields ⚓	73	45	66·3	50·1	57·6	−1·0	109	0	2	0·04	−0·56	*	*
	Scarborough ⚓	73	49	66·9	51·9	58·9	−0·7	118	0	3	0·30	−0·31	42·9‡	38‡
	York ⚓	73	42	69·1	50·1	58·9	−2·5	118	0	3	0·50	−0·08	50·3	45
	Spurn Head ⚓	70	50	65·4	53·9	59·3	−0·8	121	0	3	0·32	?	*	*
3. ENGLAND, E.	Hillington ⚓	71	44	68·9	50·7	59·2	−1·6	120	0	2	0·21	−0·41	48·3	44
	Yarmouth ⚓	71	45	66·6	50·9	58·2	−3·3	113	0	3	0·08	−0·52	*	*
	Geldeston ⚓	73	42	68·5	49·6	58·4	−2·9	115	0	3	0·08	−0·47	53·7	49
	Cambridge ⚓	74	45	71·0	51·9	60·8	−2·0	132	0	1	0·02	−0·50	56·2	51
	Rothamsted ⚓	75	46	70·0	52·2	60·5	−1·9	130	0	1	0·01	−0·59	*	*
	Ingatestone ⚓	74	45	70·1	51·6	60·2	−2·8	127	0	3	0·04	−0·50	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ⚓	72	44	67·3	49·7	57·9	−3·5	111	0	3	0·38	−0·24	43·3‡	39‡
	Loughborough ⚓	76	47	71·1	53·4	61·6	−0·6	137	0	3	0·08	−0·44	48·0‡	43‡
	Cheadle ⚓	69	45	66·1	51·1	58·1	−2·3	113	0	4	0·62	−0·08	*	*
	Churchstoke ⚓	71	43	68·3	52·2	59·7	−0·5	124	0	4	0·34	−0·24	51·3	46
	Hereford ⚓	76	44	72·2	54·1	62·5	+0·8	144	0	3	0·34	−0·18	*	*
	Cirencester ⚓	73	43	69·3	51·7	59·9	−1·3	125	0	3	0·26	−0·44	52·2	47
	Oxford ⚓	75	46	70·4	53·0	61·1	−0·4	134	0	2	0·07	−0·50	49·3	45
5. ENGLAND, S.	London ⚓	76	46	71·9	53·7	62·2	−1·1	141	0	2	0·07	−0·43	47·4‡	43‡
	Strathfield Turgiss ⚓	78	45	72·3	50·7	60·8	−0·6	132	0	1	0·05	−0·47	*	*
	Dungeness ⚓	73	46	67·3	52·9	59·6	−2·1	123	0	1	0·01	−0·41	50·6‡	46‡
	Hastings (St. Leonards) ⚓	73	47	68·1	53·4	60·2	−1·1	127	0	1	0·01	−0·45	62·4	57
	Southampton ⚓	77	48	72·0	54·6	62·7	+1·1	145	0	2	0·10	−0·48	54·8	50
	Hurst Castle ⚓	72	48	67·9	55·0	61·0	−0·4	133	0	3	0·05	−0·44	*	*
	Stowell ⚓	72	46	67·6	53·4	60·0	−0·6	126	0	5	0·43	?	40·3‡	37‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ⚓	65	48	62·6	50·9	56·3	−0·8	100	0	7	1·79†	+0·48	*	*
	Glasgow ⚓	66	47	63·6	51·0	56·9	−0·9	104	0	4	0·58	−0·25	30·7	27
	Ardrossan ⚓	64	51	62·0	53·0	57·2	−0·5	106	0	4	0·37	−0·31	*	*
	Glenlee ⚓	67	40	65·0	49·4	56·7	−1·1	103	0	5	0·73	−0·22	*	*
	Douglas (Isle of Man) ⚓	69	51	65·5	53·2	58·9	+1·2	118	0	4	0·77	+0·08	46·0	41
7. ENGLAND, N.W.	Newton Reigny ⚓	66	37	64·5	48·6	56·0	−2·4	98	0	4	0·40	−0·29	44·6	39
	Stonyhurst ⚓	68	44	64·2	51·9	57·6	−1·6	109	0	5	1·68	+0·66	41·0	37
	Blackpool ⚓	68	54	64·5	55·9	59·9	−0·2	125	0	?	?	?	41·8	37
	Manchester ⚓	70	45	67·0	51·5	58·7	−1·7	117	0	7	0·97	+0·10	*	*
	Liverpool Obsy. (Bidston) ⚓	69	55	65·4	55·7	60·2	−0·5	127	0	4	0·57	−0·11	*	*
	Llandudno ⚓	68	52	66·1	55·3	60·3	−0·4	128	0	4	0·75	+0·14	32·6	29
	Holyhead ⚓	72	52	66·4	55·0	60·3	+0·9	128	0	4	0·50	−0·03	*	*
8. ENGLAND, S.W.	Llandovery ⚓	75	37	71·0	52·1	61·0	+0·4	133	0	4	0·42	−0·47	*	*
	Pembroke ⚓	64	52	61·9	55·1	58·3	−1·6	114	0	3	0·09	−0·44	38·7	35
	Arlington (N. Devon) ⚓	68	46	65·4	53·1	58·8	−2·2	118	0	4	0·28	−0·87	*	*
	Cullompton ⚓	72	44	69·9	53·9	61·3	−0·2	135	0	3	0·06	−0·56	30·9	28
	Falmouth ⚓	67	53	65·6	55·9	60·4	−0·9	129	0	1	0·22	−0·50	33·9	31
	Plymouth ⚓	75	53	71·1	57·1	63·6	+1·9	151	0	2	0·29	−0·32	33·3	31
	Prawle Point ⚓	70	52	66·4	56·1	60·9	+0·9	132	0	3	0·05	?	*	*
9. IRELAND, N.	Malin Head ⚓	61	53	59·7	54·9	57·1	+0·2	106	0	7	0·73	?	*	*
	Londonderry ⚓	71	50	65·2	53·3	58·8	+0·5	118	0	6	0·94	+0·17	*	*
	Mullaghmore ⚓	63	49	61·1	54·3	57·5	−2·2	109	0	6	0·36	−0 51	*	*
	Belmullet ⚓	63	51	60·3	54·9	57·4	−0·3	108	0	6	0·69	?	*	*
	Markree Castle ⚓	68	43	63·2	52·6	57·5	−2·4	109	0	7	0·47	−0·28	9·3	8
	Brookeborough ⚓	66	45	63·6	50·7	56·7	−3·4	103	0	5	0·70	?	*	*
	Armagh ⚓	70	45	66·4	52·1	56·8	−3·1	104	0	5	0·59	−0·11	31·4	28
	Donaghadee ⚓	73	54	67·4	56·6	61·6	+3·4	137	0	4	0·42	−0·18	*	*
	Edgeworthstown ⚓	71	46	65·9	52·3	58·6	−1·3	116	0	5	0·76	−0·05	*	*
10. IRELAND, S.	Dublin ⚓	73	50	68·0	55·2	61·2	+1·3	134	0	4	0·52	−0·06	30·4	27
	Parsonstown ⚓	70	48	65·7	54·0	59·4	0·0	122	0	4	0·44	−0·26	16·4	15
	Kilkenny ⚓	72	47	68·0	54·7	60·9	+0·6	132	0	2	0·30	−0·25	*	*
	Waterford ⚓	76	50	69·4	55·6	62·0	+1·4	140	0	3	0·60	−0·04	*	*
	Roche's Point ⚓	71	54	67·9	56·6	61·9	+1·2	139	0	3	0·35	−0·36	*	*
	Valencia ⚓	64	54	62·7	56·0	59·1	0·0	120	0	6	0·46	−0·44	15·6	14
	Killarney ⚓	69	51	65·9	55·2	60·2	+0·5	127	0	3	0·29	?	*	*
	Foynes ⚓	65	51	62·9	55·4	58·9	−0·5	118	0	7	1·29	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ⚓	65	55	62·3	55·6	58·7	−2·0	117	0	2	0·06	−0·46	*	*
	Jersey ⚓	68	55	65·4	56·1	60·4	−1·4	129	0	2	0·02	−0·48	30·2	28

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

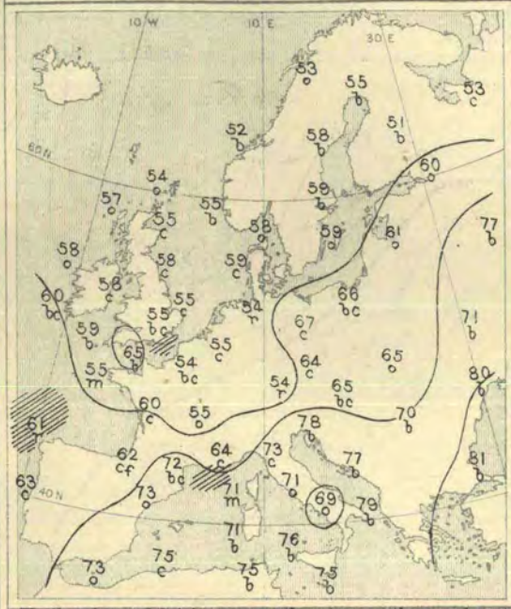
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

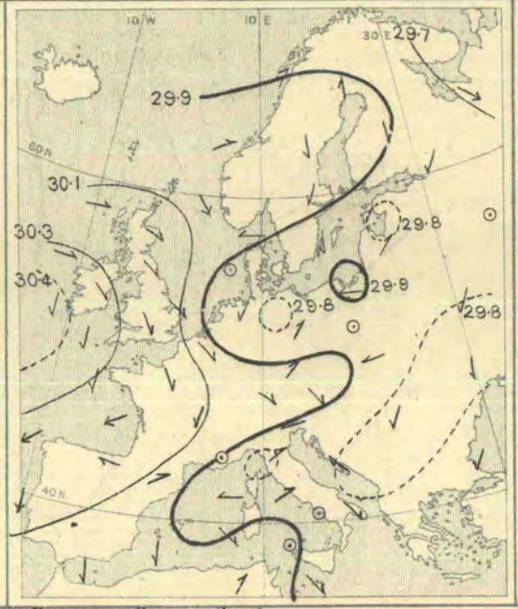
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, and those to Dungeness at Westgate-on-Sea. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 20th July.

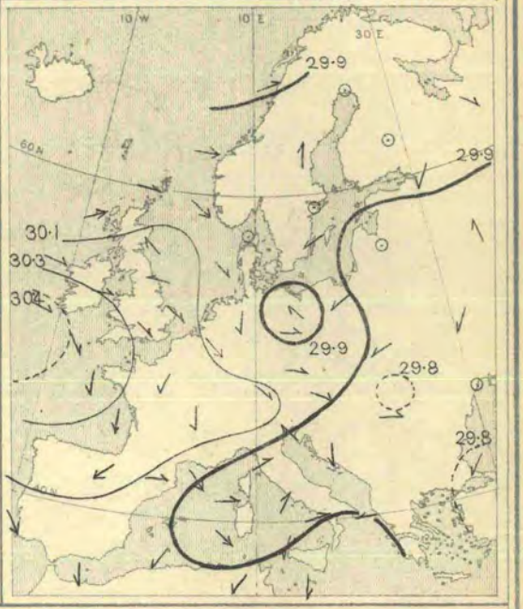
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-eastern, southern, and western Europe, as well as over the greater part of the British Isles; very dull and unsettled over the Baltic and Germany, with much rain in several places. Becoming overcast and unsettled again in the extreme northern and north-western parts of the United Kingdom. Rain falling over the northern and north-western parts of our Islands later (heavily at Liverpool), and also in Germany and some parts of Austria; thunderstorm in northern Italy. Remaining fair in the south-east and south of England and over the greater part of France.

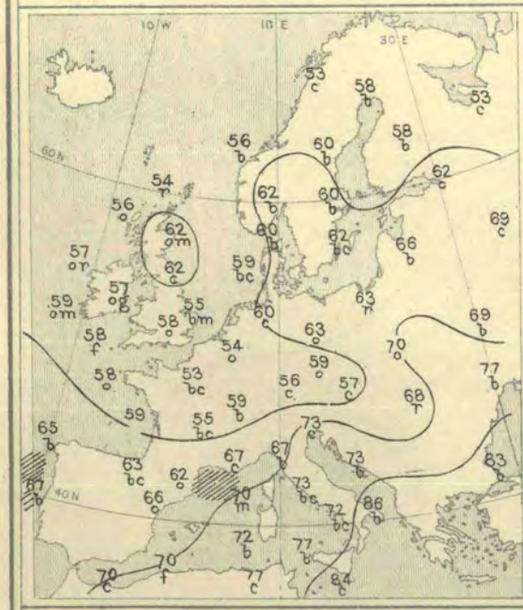
Temperature continuing very low for time of year all over north-western Europe. Lowest morning values, 51° at Kuopio, 52° at Christiansund, 53° at Archangel, Bodö, and Shields, 54° at Paris and Münster, 55° at Haparanda, Skudesnaes, Aberdeen, Oxford, and in London. Highest, 84° at Sfax, 81° at Constantinople, 80° at Odessa, 70° to 79° on the Mediterranean and Adriatic coasts, as well as over southern and central Russia generally, and 64° to 67° over the western parts of north Germany. Not reaching 70° at any of our own stations later, but touching 72° at Berlin, 77° at Rochefort, 80° at Perpignan, 90° in some parts of Italy, and 100° to 108° in portions of Algeria.

Wind Northerly (North-West to North-East) over western Europe generally, light or moderate in force in most places, but fresh at a few French and Spanish stations. Backing to West and South-West on our north and north-west coasts later and freshening.

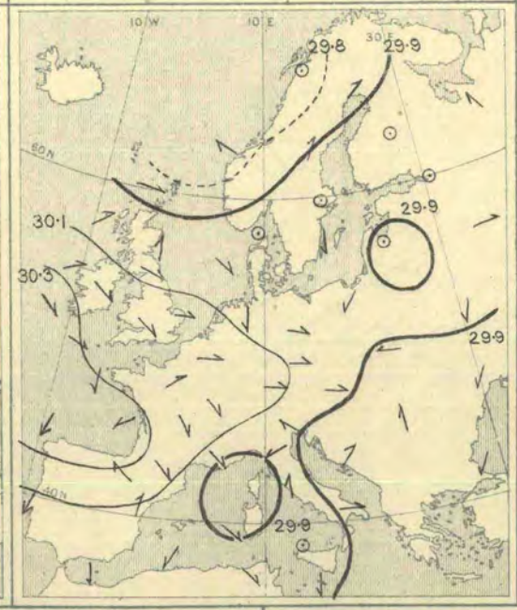
Barometer highest, 30·4 ins. to 30·1 ins., in a large anti-cyclonic system spreading over western Europe from the Atlantic. Lowest, 29·7 ins. and less, over northern Russia, and above 29·8 ins. in three small depressions—one over the Gulf of Riga, another over north Germany, and the third over northern Italy. New depression approaching Scotland from the westward later, and barometer beginning to fall at all our northern and western stations. Small depression over Gulf of Genoa growing deeper.

Monday, 21st July.

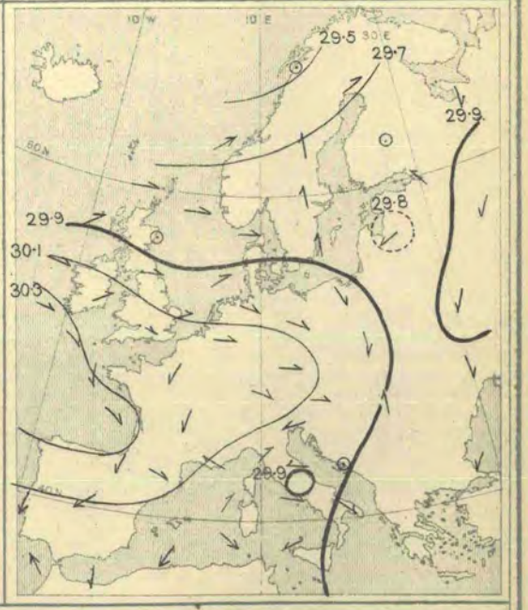
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the Gulf of Bothnia, Finland, the south of Russia, and in many parts of central, southern, and south-western Europe; cloudy or overcast in the British Islands and north-west of France, with rain in several localities; dull and rainy over east Germany also. Heavy rain later over Poland and the eastern parts of Germany and Austria, slight falls in some other places; some in Algeria.

Temperature in morning, 86° at Brindisi, 84° at Malta, and 83° at Constantinople; ranging between 70° and 80° on the southern and eastern shores of the Mediterranean and in the south of Russia. Very low for the time of year over north-western Europe, lowest of all being 48° at Le Mans, 53° at Archangel, Bodö, and Paris, 54° at Sumburgh Head and Brussels. Slightly exceeding 70° in several parts of our Islands and France during the day, but falling short of that value over the greater part of Germany; exceeding 80° in southern Austria and southern Italy, and exceeding 100° in some parts of Algeria.

Wind light to moderate from between West and North-West over the greater part of the United Kingdom, North-Westerly to Northerly over France, western Germany, and Spain; Southerly to South-Easterly over the northern parts of Scandinavia; very variable elsewhere. Backing to South-West in our Islands later, veering to South-West in Norway, not much change elsewhere.

Barometer highest, 30·3 ins. to 30·0 ins., over the greater part of western Europe and the adjacent parts of the Atlantic, 30·0 ins. and more over Finland and northern Russia. Lowest, 29·8 ins. and less, over Norway and the adjacent parts of the Atlantic, and 29·9 ins. and less over the whole of south-eastern Europe, as well as in a shallow depression over the northern parts of the Mediterranean. Falling somewhat over the British Islands and Norway during the day, no great change elsewhere.

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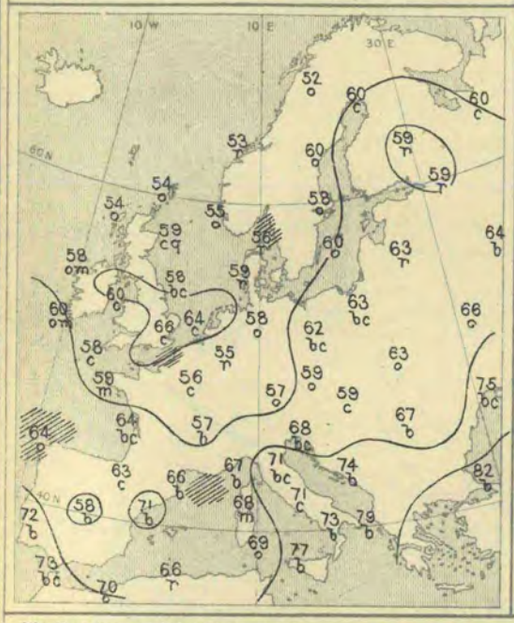
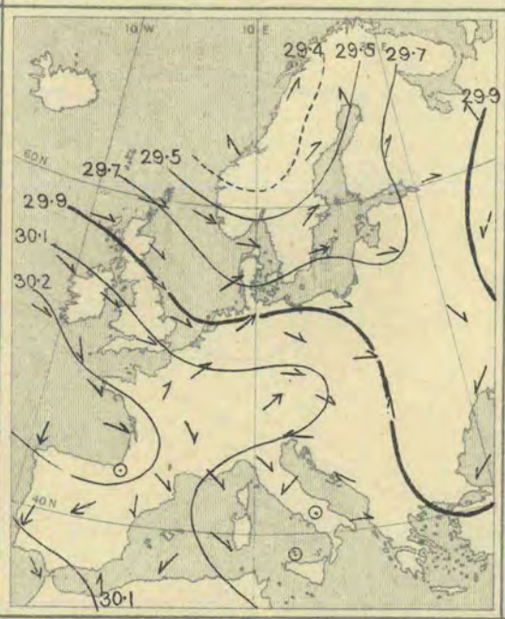
Tuesday, 22nd July.

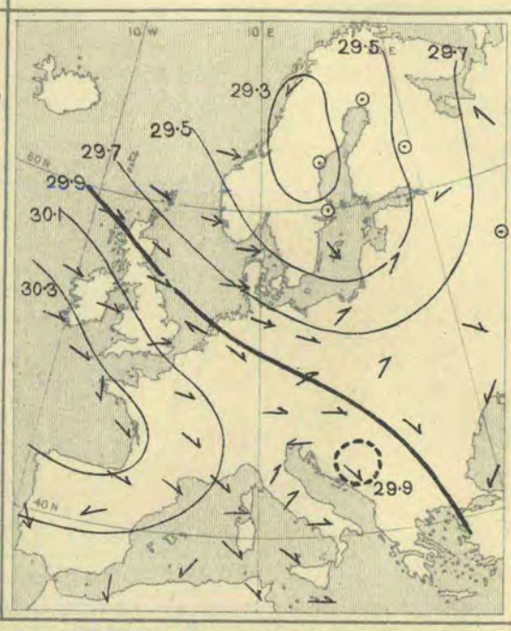
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-eastern, southern, and western Europe, fair over the United Kingdom generally, cloudy over many parts of Germany and Austria, overcast over northern Europe; with rain in many places. Rain during day in last-named districts, in Germany, and the east of France: slight falls over some parts of Scotland and Ireland and a heavy fall at Kharkov.

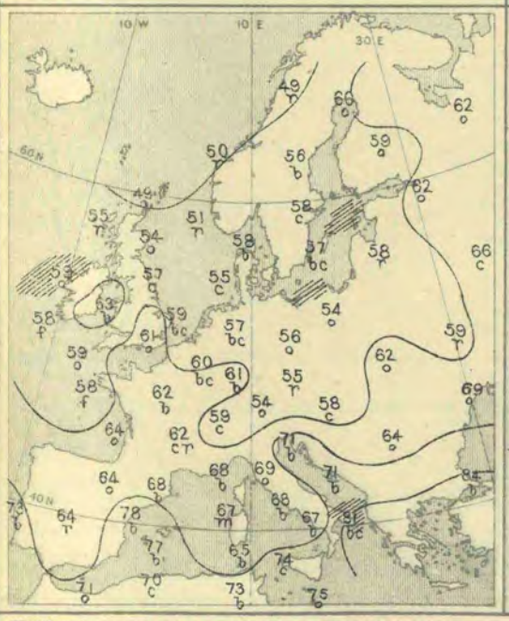
Temperature fallen over eastern, risen a little over western, Europe. Morning readings exceeding 80° at Constantinople, and exceeding 70° at most of the Mediterranean, Adriatic, and Black Sea stations. Below 60° at nearly all the Scandinavian, Scotch, and Irish stations, and as low as 52° at Bodö, 53° at Christiansund, 54° at Sumburgh Head and Stornoway, 55° at Brussels and Limoges, and 56° at Paris and Münster. Daily maxima exceeding 70° over many parts of England and France and touching 80° at Lisbon; varying between 80° and 90° at the Italian stations, and exceeding 100° Faht. over some parts of central Algeria.

Wind Westerly and North-Westerly over our Islands, moderate to fresh in force; South-Westerly in the Netherlands and Denmark, Southerly over Finland and Sweden, Westerly and North-Westerly over Germany and Austria, Northerly to North-Easterly over the Iberian Peninsula, very variable elsewhere. Backing to West at our northern stations later and blowing freshly. Little change elsewhere.

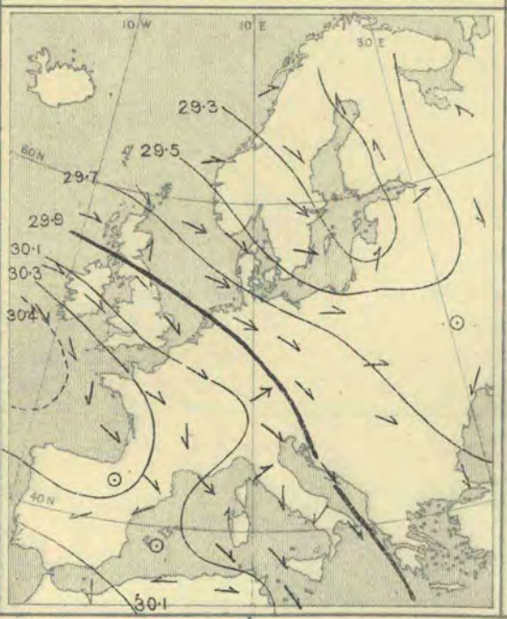
Barometer highest, 30·3 ins. (and more) to 30·0 ins., in a high-pressure system stretching from the Atlantic over western Europe to Germany and Austria, and covering Ireland and the greater part of England, 29·9 ins. and more over central and eastern Russia. Lowest, 29·4 ins. and less, over Norway, and rather below 29·9 ins. over the Black Sea. Falling over Sweden, Russia, the Baltic, and Germany later, as well as over Spain, but little change over our Islands and France.

Wednesday, 23rd July.

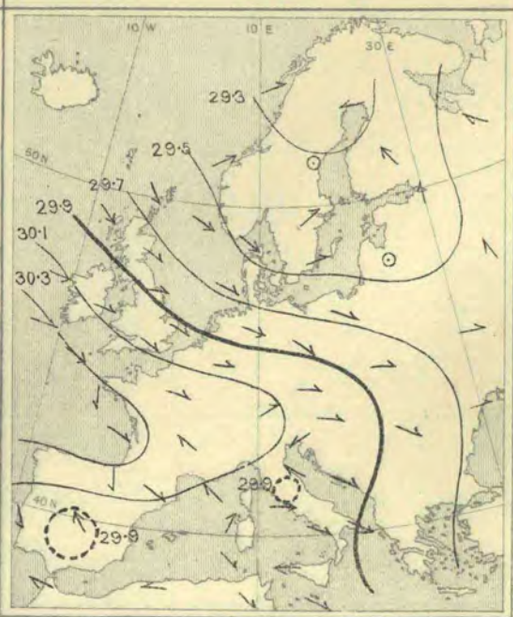
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright at most of the Mediterranean stations and over France, cloudy and unsettled in most other regions, with rain generally in Norway, and locally in several other parts of northern, north-western, and central Europe. Showers later over the northern and western parts of the British Islands and to the eastward of the North Sea—considerable in some places, and exceeding 0·7 in. at Christiansund; very large fall in some parts of southern Russia—2·5 ins. at Kharkov.

Temperature still low over the north-western countries and decreasing rapidly over south-eastern Europe. Morning readings exceeding 70° in the extreme south and south-east only; below 60° in many parts of France, Germany, and Austria, as well as over our Islands, the North Sea, and Scandinavia. Lowest of all, 49° at Bodö and Sumburgh Head, 50° at Christiansund, 53° at Wick, 54° at Aberdeen, Neufahrwasser and Munich. Rising to between 70° and 76° in several parts of England and Ireland later, to a higher value in the southern parts of France, and reaching 85° to 91° over the south of Italy and 95° to 102° over central Algeria.

Wind mainly North-Westerly over north-western Europe and Austria, moderate in most places, but strong locally at a few stations; Northerly over the south of France, North-Easterly in Spain, Westerly moderate over Germany, Southerly over Finland. Very variable over Russia and the Mediterranean. Becoming more Westerly, and freshening, in our Islands later; blowing strongly at Liverpool and a moderate gale at the mouth of the Humber.

Barometer highest, 30·4 ins. and more to 30·0 ins., over Ireland, England, France, Spain, the Bay of Biscay, and adjacent parts of the Atlantic; 29·7 ins. and more over central, northern, and eastern Russia. Lowest, 29·3 ins. and less, over the northern parts of Scandinavia, the Gulf of Bothnia, and Gulf of Riga; 30·0 ins. and less over the Gulf of Genoa and northern Italy. Falling in our Islands later, and also over central Spain, where a well-defined depression appeared temporarily.

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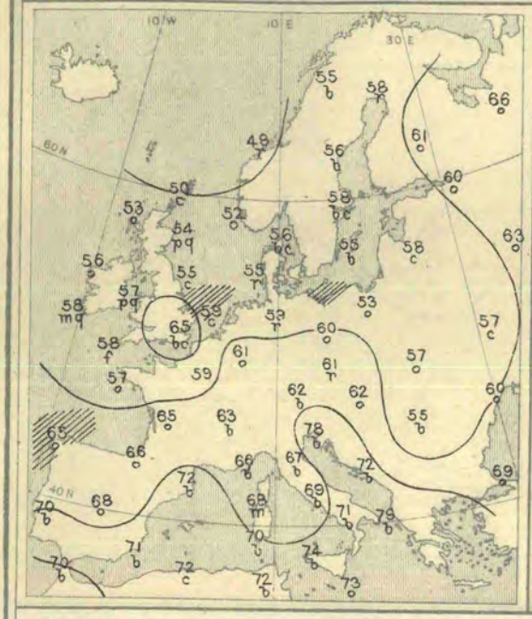
Thursday, 24th July.

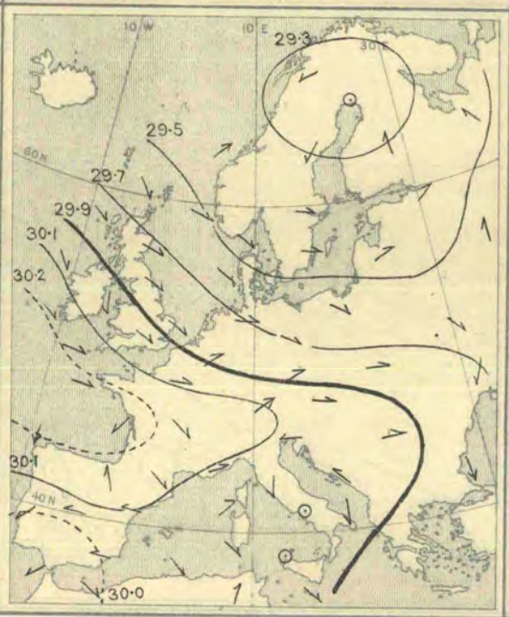
Temperature and Weather.

8 a.m.

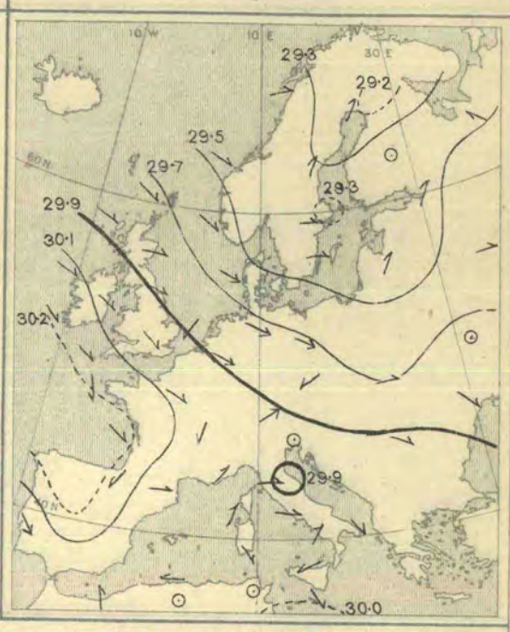


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fair over western Europe as a whole, but dull in several regions, and showery in some localities. Dull and rainy in many parts of northern and central Europe, fine and bright in the extreme south-west, south-east, and south. Rainfall considerable over northern and north-central Europe later, but fair weather prevalent over the greater part of the United Kingdom, with slight showers in a few localities.

Temperature risen somewhat over central Europe and southern Russia, not changed much over the western or north-western countries. Morning readings varying between 70° and 84° at the Mediterranean stations to less than 60° over the most north-western countries. Lowest values of all, 49° at Christiansund, 50° at Sumburgh Head, 51° at Nairn, 52° at Skudesnaes. Rising during day to between 70° and 75° over the southern and south-midland counties of England, but falling short of 70° in north. Maxima, 82° at Nice, 86° at Lisbon, 88° at Perpignan, 80° to 90° over the southern half of Italy, and touching 100° at Aumale.

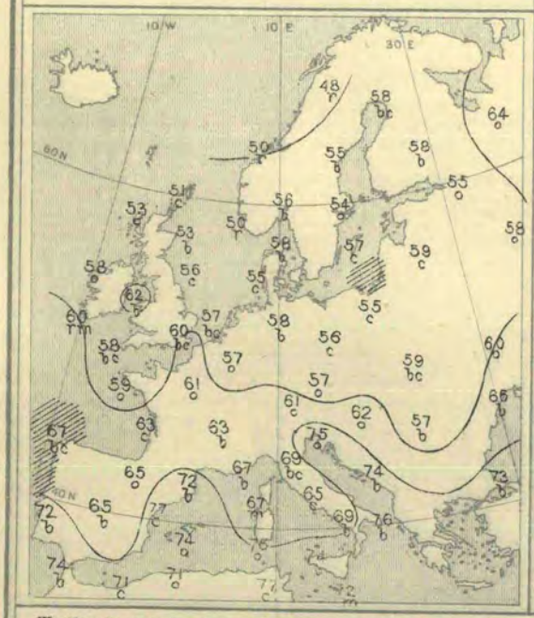
Wind North-Westerly, moderate, over Ireland, Scotland, and the North Sea; Westerly in the south of England and north of France, Westerly and South-Westerly over north Germany; Northerly to North-Easterly over Spain and the south-west of France; very variable elsewhere. Light North-Westerly wind becoming strong on the eastern shores of the North Sea later and freshening slightly over England. No other change of importance.

Barometer highest, 30·2 ins. and more to 30·0 ins., over the Bay of Biscay, Ireland, France, the northern parts of Spain and Portugal and Algeria. Lowest, 29·3 ins. and less, over Lapland and the north of Sweden, 29·7 ins. and less over the south of Russia, 30·0 ins. and less over Sardinia, Corsica, and the Gulf of Genoa. No important change over western Europe later beyond a slight rise over the different parts of the North Sea.

Friday, 25th July.

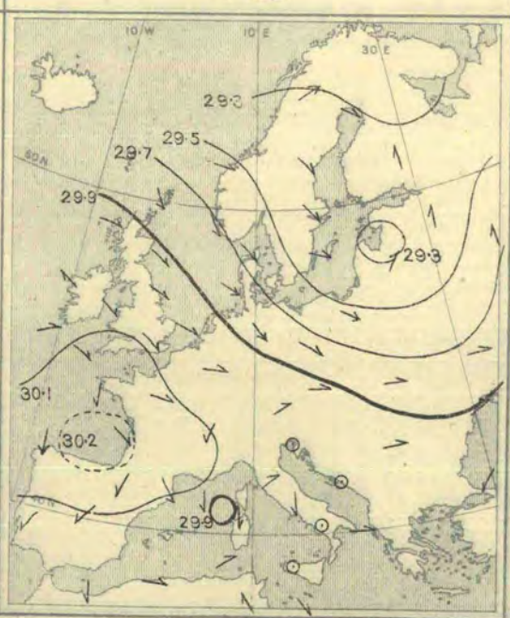
Temperature and Weather.

8 a.m.

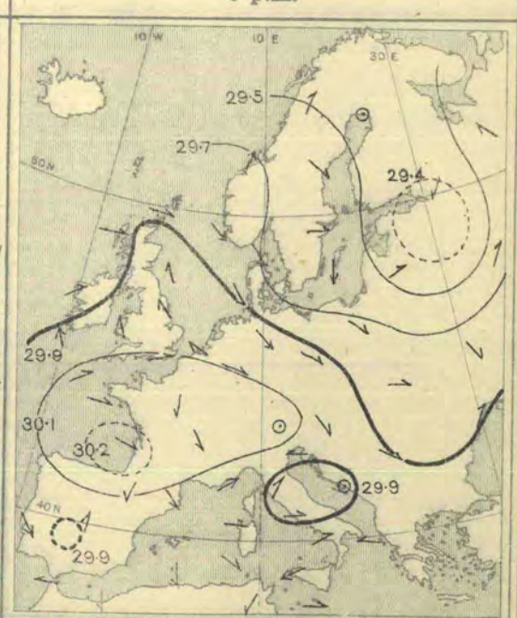


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over south-eastern, southern, and south-western Europe, fair generally over France, Great Britain, and the North Sea, dull and unsettled elsewhere. Very rainy on the Norwegian coast and in the south of Ireland, and rather showery looking in the south-east of England. Rainy weather in Ireland becoming more general later and spreading to many parts of Great Britain.

Temperature in morning exceeding 70° over the Mediterranean, Adriatic, and at Constantinople; lower in all other parts of Europe, and below 60° over most of the north-western, northern, and central countries. As low as 48° at Bodö, 50° at Christiansund and Skudesnaes, 51° at Sumburgh Head, and 53° at Stornoway and Aberdeen. Rising to a little above 70° at some of the English and French stations later, to 81° at Perpignan, and to 90° or more in Spain and Algeria, but not touching 60° either at Sumburgh Head, Stornoway, or Shields.

Wind chiefly North-Westerly or Westerly over Great Britain, the North Sea, Germany, and Austria, and moderate in force, but South-Westerly to Southerly, light, both over the Baltic Provinces and Finland on the one hand, and in the west and south of Ireland on the other. Northerly to North-Easterly over the Spanish Peninsula, very variable and light over the Mediterranean. Becoming Southerly and freshening on our western coasts generally towards evening, and backing at some of the central English stations also.

Barometer highest, 30·2 ins. to 30·0 ins., in an anti-cyclonic system of irregular form, covering the Bay of Biscay, Spain, France, England and Ireland, and exceeding 29·8 ins. over the south-east of Russia. Lowest, 29·3 ins. and less, over Lapland, and also in a small depression over the Gulf of Riga; 29·9 ins. and less in very shallow disturbances over the northern parts of the Adriatic and Mediterranean. Falling in the west of our Islands later as a new shallow disturbance approached our western coasts.

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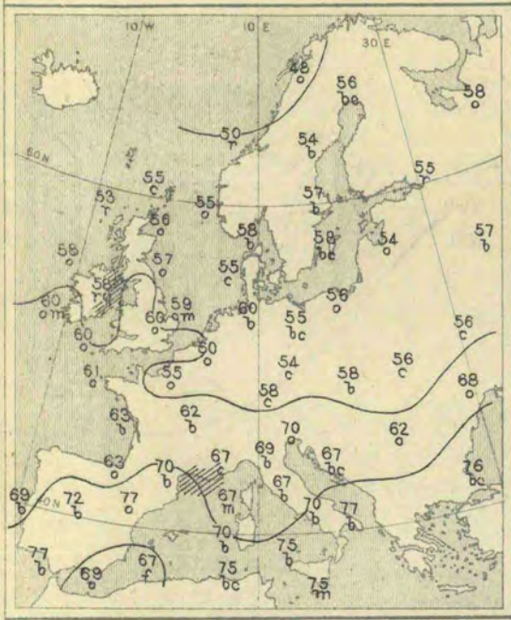
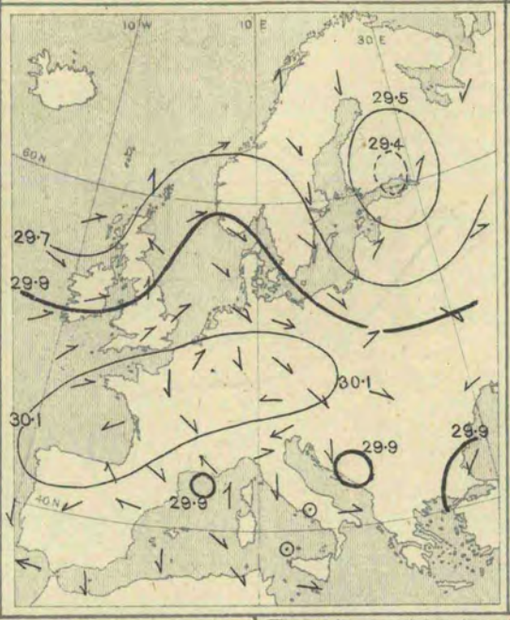
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 26th July.

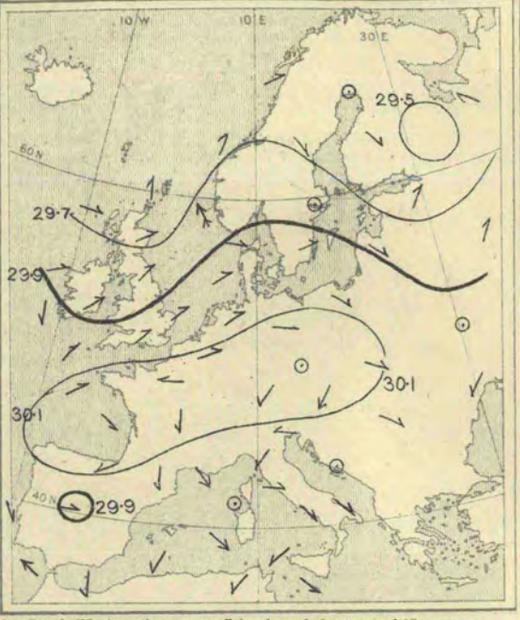
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather cloudy or overcast over the greater part of the United Kingdom, with showers at several of our southern stations; dull also over the north of Russia and the western parts of Norway and France, with rain at St. Petersburg and Christiansund. Fine over the whole of central and southern Europe, as well as in Sweden and Denmark. Showers falling during day in nearly all parts of our Islands; thunderstorms, with heavy rain, occurring over the north of Italy.

Temperature highest, 77° at Barcelona, San Fernando, and Brindisi, 76° at Constantinople and Tunis, and 75° at Palermo, La Calle, and Malta; above 70° in nearly all parts of southern and eastern Europe. Lowest, 48° at Bodö, 50° at Christiansund, 51° at Warsaw, 52° at Münster and Breslau, and 53° at Stornoway. Daily maxima below 65° at several of our western and northern stations, and very little above 70° in any part of our Islands, but thermometer exceeding 80° in most parts of southern Europe, the highest readings of all being 98° at Madrid and 97° at Cape Bearn and Lisbon.

Wind light or moderate from the South-Westward over our Islands and the west of Norway, as well as over the Baltic Provinces. Moderate from the Northward or North-Westward in Sweden and Denmark, and from the Westward or North-Westward in Germany and Austria. Light from the Eastward at most of the French and Spanish stations; light from between North and West in Italy and Algeria. Subsequently veering to the Westward on our west and north-west coasts.

Barometer highest, 30·1 ins. to 30·2 ins., in an anti-cyclone extending from the Bay of Biscay and the north of Spain to central Germany. Lowest, 29·4 ins. and less, in a depression lying over the Gulf of Finland, 29·6 ins. and less in another lying to the north-westward of Scotland, 29·9 ins. and less over Asia Minor and also in a shallow depression lying over Montenegro. Depressions over Gulf of Finland and to the north-westward of our Islands subsequently travelling eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the greater part of this week pressure was highest over western Europe and the neighbouring parts of the Atlantic, lowest over Russia and Scandinavia; the gradients were moderate to slight, the winds Westerly to Northerly; the weather was fair, as a whole, in the western, cloudy, unsettled, and at times rainy, in the northern and central countries. Temperature was rather low for the time of year. After Thursday an important change set in; the high-pressure area gave way somewhat, and began to move eastwards over the Continent; temperature rose a little over western Europe, and in that region, as well as over the British Islands, the wind backed to the South-Westward. Over central and northern Europe the weather improved, but in the United Kingdom it assumed a less fair appearance, and at the most western and northern stations rain began to fall somewhat freely.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of the Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
Week ending July 19th	Newton Reigny	68	45	62·8	49·5	55·8	−2·6	97	0	5	0·33	−0·35	32·4	28

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 31.] *Third Series.* WEEK ENDING SATURDAY, 2ND AUGUST, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85; but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 182.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH	68	43	61·3	49·8	55·2	0 (average)	92	+ 4	0	0	1114*	+ 71	438	− 72
	1. SCOTLAND, EAST	72	46	65·1	51·0	57·6	1 above.	109	+ 1	0	0	1349	− 49	485	− 58
	2. ENGLAND, N.E.	74	49	67·7	54·8	60·8	2 above.	132	+ 16	0	0	1474	− 12	389	− 93
	3. ENGLAND, EAST	76	44	70·1	54·3	61·7	1 below.	138	+ 10	0	0	1692	− 55	468	− 39
	4. MIDLAND COUNTIES	74	44	68·7	53·2	60·4	1 below.	129	+ 5	0	0	1680	− 77	478	− 26
	5. ENGLAND, SOUTH	77	46	68·4	55·9	61·7	0 (average)	138	+ 2	0	0	1822	− 57	305	− 68
Principal Grazing &c., Districts.	**6.** SCOTLAND, WEST	68	44	63·1	52·0	57·2	0 (average)	106	− 3	0	0	1456	− 20	325	− 73
	7. ENGLAND, N.W.	71	48	64·7	54·6	59·3	1 below.	121	+ 4	0	0	1565	+ 2	302	− 81
	8. ENGLAND, S.W.	74	45	64·7	54·5	59·3	2 below.	121	− 4	0	0	1730	− 61	245	+ 12
	9. IRELAND, NORTH	73	46	63·9	52·5	57·7	1 below.	110	0	0	0	1527	− 24	294	− 56
	10. IRELAND, SOUTH	71	46	64·6	53·3	58·6	1 below.	116	− 3	0	0	1765	− 12	224	− 15
	— CHANNEL ISLANDS	77	52	66·8	56·1	61·1	0 (average)	134	+ 1	0	0	1944	+ 36	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 182.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH	6	11	0 (average).	152	+20	28·5	+ 0·7	22	19	709	−136	25	− 4
	1. SCOTLAND, EAST	5	5	2 less.	129	+19	17·3	− 0·3	31	26	846	−118	30	− 3
	2. ENGLAND, N.E.	3	6	1 less.	108	+ 1	12·9	− 2·1	34	31	781	−105	28	− 3
	3. ENGLAND, EAST	3	2	3 less.	114	+ 4	14·8	+ 0·8	31	29	993	− 81	35	− 3
	4. MIDLAND COUNTIES	4	7	1 more.	107	− 1	13·4	− 2·7	30	28	867	− 77	31	− 2
	5. ENGLAND, SOUTH	3	2	3 less.	108	+ 5	16·6	+ 1·5	35	33	922	− 90	33	− 3
Principal Grazing &c., Districts.	**6.** SCOTLAND, WEST	5	10	0 (average).	131	+10	28·6	− 0·6	34	31	897	− 24	31	− 1
	7. ENGLAND, N.W.	4	6	1 less.	123	+11	18·2	− 0·2	33	31	835	− 93	29	− 3
	8. ENGLAND, S.W.	5	11	4 more.	127	+ 9	22·1	− 1·3	35	34	951	−133	34	− 4
	9. IRELAND, NORTH	6	8	0 (average).	143	+ 8	18·4	− 1·5	31	28	871	+ 2	31	+ 1
	10. IRELAND, SOUTH	4	6	1 less.	138	+11	24·6	+ 2·3	27	25	900	− 77	32	− 2
	— CHANNEL ISLANDS	3	6	1 more.	129	+ 4	20·9	+ 3·3	65	62	1129	−163	40	− 6

General Remarks.

Weather has continued rather showery and unsettled in the western and northern parts of the Kingdom. Over the greater part of England, however, the fair conditions experienced during the previous week again prevailed generally, although at the close of the period rain occurred at nearly all stations, with thunderstorms in the south.

Temperature has been slightly above the mean in "Scotland E." and "England N.E.," but in the other districts it has either just equalled or been a little below the normal. The highest of the maxima, which were recorded on August 1st in England and on irregular dates in Ireland and Scotland, ranged from 68° in "Scotland N." and "W." to 77° in "England S." and the "Channel Islands." The lowest of the minima, which were registered at most stations on July 29th, varied from 43° in "Scotland N." to 49° in "England N.E." and 52° in the "Channel Islands."

Rainfall has been rather more than the mean in "England S.W.," the "Midland Counties," and the "Channel Islands," and just equal to it in "Scotland N." and "W." and "Ireland N.;" in all other districts, however, a deficit is shown.

Bright Sunshine has been less prevalent than it was last week in most districts, but shows an increase in Ireland, the south-west of England, and the "Channel Islands." The percentage of the possible amount of duration varied from 19 in "Scotland N." to 34 in "England S.W.," and to 62 in the "Channel Islands."

Barometer and Wind.—The barometer was generally highest over the southern parts of the Kingdom, while depressions travelled north-eastward outside our western and northern coasts. Towards the end of the week, however, a "V"-shaped low-pressure system passed eastwards over the country and caused rain in all districts. Moderate breezes between South and West were very general until the close of the period, when a moderate wind from the North-Westward prevailed.

* This value has been altered owing to the receipt of further information.

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III.– DATA from which the SUMMARY on page 181 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head 𝔖	62	48	59·1	49·4	53·9	+0·2	83	0	5	0·32	—0·20	*	*
	Stornoway 𝔖	64	47	60·9	50·3	55·2	+0·5	92	0	7	0·92	+0·21	32·1	28
	Wick 𝔖	68	45	63·4	46·6	54·4	—0·8	87	0	5	0·63	+0·11	*	*
	Lairg 𝔖	66	45	63·3	48·6	55·5	+0·5	95	0	7	0·46	—0·22	*	*
	Glencarron 𝔖	63	43	58·5	49·1	53·5	—1·4	81	0	6	2·95†	+1·53	?	?
	Fort Augustus 𝔖	68	49	62·4	52·2	56·9	—0·8	104	0	5	1·02†	?	12·7	11
	Fort William 𝔖	65	49	61·6	52·7	56·8	—0·5	104	0	5	1·40†	?	19·8	18
1. SCOTLAND, E.	Nairn	68	48	64·3	51·9	57·7	+0·1	110	0	5	0·30	—0·30	*	*
	Aberdeen	70	49	65·9	51·6	58·3	+1·1	114	0	5	0·41	—0·27	37·5	33
	Braemar 𝔖	66	46	61·2	49·0	54·7	0·0	89	0	6	0·39	—0·36	23·7‡	21‡
	Ochtertyre 𝔖	72	47	66·9	49·1	57·4	—0·5	108	0	5	0·57	—0·21	*	*
	Leith 𝔖	69	52	66·7	53·0	59·4	+1·0	122	0	5	0·67	+0·06	23·8‡	21‡
	Marchmont 𝔖	70	49	65·7	51·2	58·0	+1·5	112	0	6	0·70	—0·09	32·0	29
2. ENGLAND, N.E.	Alnwick Castle	68	49	64·9	54·1	59·1	+1·7	120	0	2	0·19	—0·48	*	*
	Durham	74	49	69·2	53·9	61·0	+2·6	133	0	3	0·46	—0·17	41·4	38
	Shields	72	51	67·9	54·9	61·0	+2·8	133	0	2	0·41	—0·21	*	*
	Scarborough 𝔐	71	51	68·2	55·1	61·2	+1·7	134	0	4	0·91	+0·31	28·9‡	26‡
	York	72	50	69·1	54·1	61·1	0·0	134	0	3	0·96	+0·39	32·9	30
	Spurn Head	70	52	66·9	56·4	61·3	+1·3	135	0	5	0·46	?	*	*
3. ENGLAND, E.	Hillington 𝔐	74	44	70·2	54·6	61·9	+1·5	139	0	4	0·41	—0·19	29·7	28
	Yarmouth	73	50	68·6	55·7	61·7	+0·4	138	0	3	0·12	—0·46	*	*
	Geldeston	76	47	71·4	54·6	62·4	+1·2	143	0	3	0·11	—0·39	38·1	36
	Cambridge	76	45	71·6	53·9	62·1	—0·5	141	0	4	0·46	—0·06	25·1	23
	Rothamsted	73	48	68·9	53·9	60·9	—1·4	132	0	3	0·13	—0·47	*	*
	Ingatestone	76	47	70·1	53·1	61·0	—1·9	133	0	2	0·08	—0·44	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	74	46	71·1	53·3	61·6	+0·5	137	0	4	0·38	—0·22	33·4‡	31‡
	Loughborough	74	46	71·0	54·9	62·4	+0·5	143	0	4	0·40	—0·14	27·8‡	26‡
	Cheadle 𝔐	69	47	65·4	52·8	58·7	—1·4	117	0	5	0·73	—0·01	*	*
	Churchstoke 𝔐	70	46	67·4	50·4	58·3	—1·7	114	0	4	1·36	+0·78	35·4	33
	Hereford 𝔐	72	47	69·8	53·5	61·1	—0·4	134	0	4	0·61	+0·08	*	*
	Cirencester	69	44	67·1	52·4	59·2	—2·0	120	0	5	0·82	+0·10	27·8	26
	Oxford	70	49	68·9	55·4	61·7	+0·3	138	0	4	0·29	—0·26	27·6	26
5. ENGLAND, S.	London	77	48	71·0	55·6	62·8	—0·5	146	0	2	0·10	—0·10	25·3‡	24‡
	Strathfield Turgiss 𝔐	74	46	70·9	54·7	62·2	+0·8	141	0	5	0·50	—0·02	*	*
	Dungeness	74	48	69·1	56·0	62·1	+0·4	141	0	2	0·19	—0·23	46·4‡	44‡
	Hastings (St. Leonards)	73	50	66·8	55·6	60·8	—0·7	132	0	1	0·19	—0·29	50·0	47
	Southampton	75	50	69·5	56·0	62·3	+0·7	142	0	4	0·09	—0·49	25·1	24
	Hurst Castle	68	53	66·7	57·3	61·7	+0·4	138	0	5	0·41	—0·08	*	*
	Stowell 𝔐	67	47	64·9	55·8	60·0	—0·5	126	0	3	0·16	?	30·2‡	28‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	48	62·6	51·8	56·8	—0·1	104	0	6	1·44†	+0·21	*	*
	Glasgow	68	50	64·2	52·5	57·9	+0·3	111	0	5	0·77	—0·06	34·4	31
	Ardrossan	66	53	60·9	53·6	57·0	—0·7	105	0	5	0·85†	+0·10	*	*
	Glenlee 𝔖	68	44	64·7	50·1	56·9	—1·0	104	0	5	0·87	—0·10	*	*
	Douglas (Isle of Man)													
7. ENGLAND, N.W.	Newton Reigny	68	48	64·9	52·1	58·1	—0·2	113	0	6	0·80	+0·10	36·0	33
	Stonyhurst	69	50	64·5	53·4	58·6	—0·6	116	0	5	0·99	—0·03	25·9	24
	Blackpool 𝔐	68	53	64·9	57·9	61·0	+0·8	133	0	3	0·57	—0·13	38·5	35
	Manchester	70	48	65·6	53·6	59·2	—1·1	120	0	4	0·68	—0·17	*	*
	Liverpool Obsy. (Bidston)	71	52	65·7	55·9	60·5	—0·2	130	0	3	0·42	—0·23	*	*
	Llandudno 𝔐	69	52	64·7	55·4	59·7	—1·0	124	0	3	0·44	—0·16	32·8	30
	Holyhead	64	52	62·3	54·1	57·9	—1·7	111	0	4	0·59	+0·01	*	*
8. ENGLAND, S.W.	Llandovery	69	45	66·6	51·7	58·6	—1·9	116	0	5	2·81	+1·88	*	*
	Pembroke	63	55	61·3	56·0	58·5	—1·3	116	0	4	1·21	+0·62	37·2	35
	Arlington (N. Devon)	65	50	63·3	53·4	58·0	—2·5	112	0	6	1·64	+0·44	*	*
	Cullompton 𝔐	71	45	68·3	54·3	60·8	—0·7	132	0	4	0·50	—0·12	30·5	29
	Falmouth	65	50	64·0	54·9	59·1	—2·2	120	0	5	0·76	+0·02	39·0	37
	Plymouth	74	49	67·5	56·2	61·4	—0·3	136	0	5	0·62	—0·01	34·9	33
	Prawle Point	67	53	62·1	55·1	58·4	—1·4	115	0	5	0·44	?	*	*
9. IRELAND, N.	Malin Head	63	51	61·9	53·4	57·4	+0·5	108	0	5	0·42	?	*	*
	Londonderry	68	49	65·4	52·2	58·3	—0·2	114	0	6	0·40	—0·39	*	*
	Mullaghmore	65	52	62·1	53·6	57·6	—1·9	109	0	6	0·97	+0·14	*	*
	Belmullet	62	52	60·9	54·3	57·4	—0·3	108	0	6	1·07	?	*	*
	Markree Castle	68	46	62·9	50·7	56·4	—3·2	101	0	6	0·87	+0·09	33·7	31
	Brookeborough	70	47	63·9	50·2	56·6	—3·1	102	0	4	0·76	?	*	*
	Armagh	69	48	64·7	51·8	57·8	—2·0	111	0	5	0·87	+0·19	27·9	25
	Donaghadee	73	55	67·3	55·9	61·2	+3·0	134	0	5	0·44	—0·19	*	*
	Edgeworthstown	70	46	65·6	50·4	57·5	—2·3	109	0	7	0·91	+0·11	*	*
10. IRELAND, S.	Dublin	71	52	66·0	55·2	60·2	+0·4	127	0	4	0·34	—0·25	22·7	21
	Parsonstown	68	49	65·0	52·0	58·1	—1·3	113	0	5	0·39	—0·33	28·1	26
	Kilkenny	70	48	66·1	51·3	58·2	—2·1	113	0	4	1·13	+0·54	*	*
	Waterford	68	46	65·9	51·7	58·3	—2·2	114	0	5	0·52	—0·16	*	*
	Roche's Point	65	52	62·7	54·6	58·4	—2·3	115	0	4	1·00	+0·27	*	*
	Valencia	65	52	62·9	55·1	58·7	—0·5	117	0	6	0·79	—0·15	30·7	29
	Killarney	67	48	63·9	53·3	58·2	—1·3	113	0	3	0·37	?	*	*
	Foynes	69	50	64·2	53·1	58·3	—0·9	114	0	4	0·49	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	66	54	64·4	56·3	60·1	—0·6	127	0	4	1·14	+0·62	*	*
	Jersey	77	52	69·1	55·9	62·0	0·0	140	0	1	0·01	—0·49	64·6	62

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

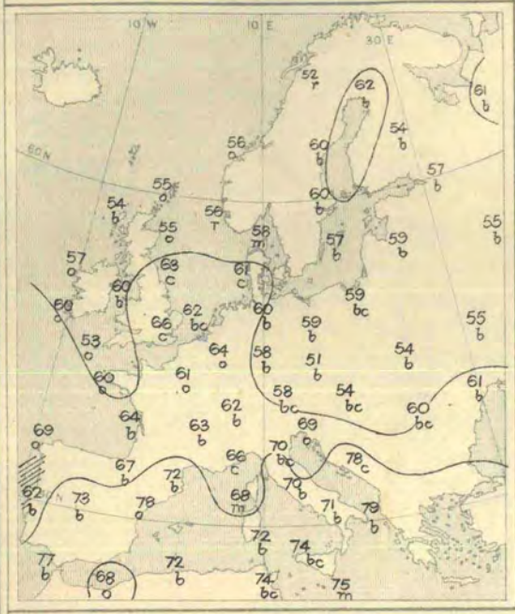
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 27th July.

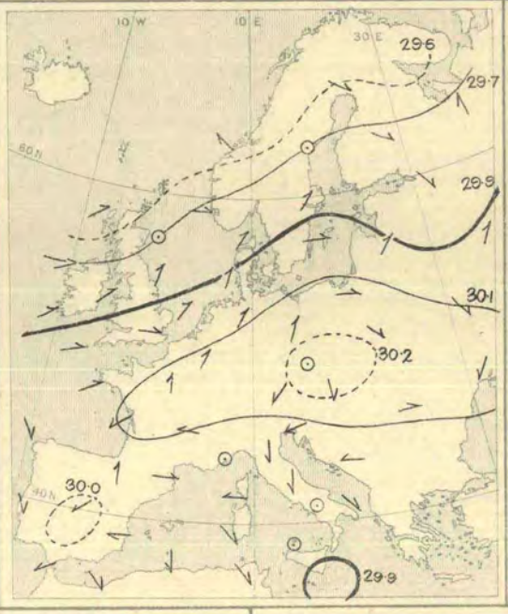
Temperature and Weather.

8 a.m.

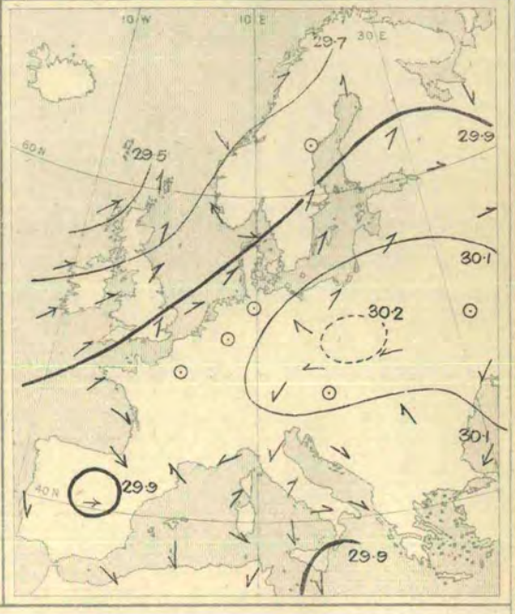


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over the greater part of Europe, but cloudy and somewhat unsettled over the British Islands, dull and rainy in Norway. Showers in several parts of our Islands during the day, very little rain elsewhere.

Temperature about its normal value for July over north-western Europe, low elsewhere. Morning readings exceeding 70° at many of the Spanish and Mediterranean stations, and as high as 79° at Brindisi, 78° at Barcelona, and 77° at San Fernando. Below 60° over the greater part of central Europe, in the north-west and north of our Islands, and in Norway; as low as 52° at Bodö, 54° at Stornoway and Malin Head, 55° at Sumburgh Head and Aberdeen. Rising during day to somewhat above 70° in some parts of our Islands and Germany, and to between 80° and 90° over southern Europe and Algeria, but not reaching 70° in London.

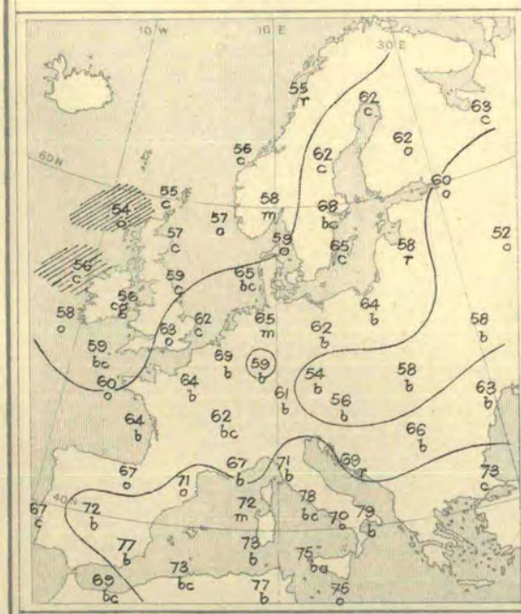
Wind moderate over the British Islands and North Sea, light generally elsewhere; mainly South-Westerly to Southerly over north-western Europe, Westerly over the Baltic and Finland, Southerly over the Bay of Biscay, very variable elsewhere. Blowing rather freshly in the British Islands later, little or no change elsewhere.

Barometer highest, 30·0 ins. to 30·2 ins. and more, over south-western, central, and south-eastern Europe. Lowest, 29·6 ins. and less, over the northern parts of Scotland and Norway, and in Lapland. Depressions in extreme north-west moving north-eastwards. Falling throughout our Islands during day, but gradients remaining moderate; high-pressure area apparently moving eastwards.

Monday, 28th July.

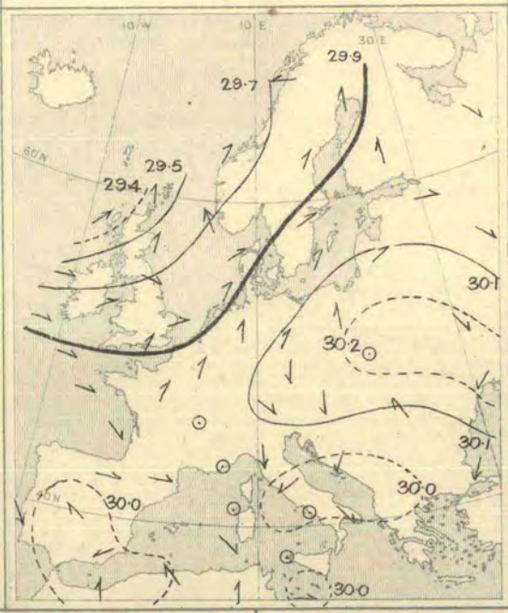
Temperature and Weather.

8 a.m.

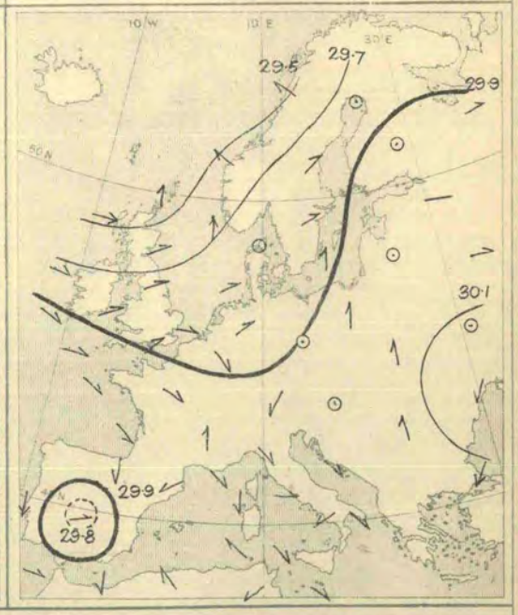


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of Europe, but dull over northern Russia, as well as on the extreme western coasts of our Islands, Norway, and France, with rain at Bodö, Helsingfors, and Riga, and passing showers in the north of Ireland. Slight showers falling during day in many parts of the United Kingdom, and thunderstorms with heavy rain occurring in Denmark.

Temperature highest, 79° at Brindisi, 78° at Rome, 77° at Alicante and La Calle, and 76° at Barcelona and Tunis; above 60° in many parts of England, and also in Sweden. Lowest, 52° at Moscow, 54° at Stornoway, Malin Head, and Prague, and 55° at Bodö, Sumburgh Head, Ardrossan, and Cracow; below 60° in most parts of central and eastern Europe. Daily maxima very little above 70° in any part of the United Kingdom, and below 65° in the west and north, but thermometer exceeding 80° at some of the French and German stations, and exceeding 90° in Algeria, central Spain, and the south of Italy. Highest readings of all, 102° at Laghouat and 97° at Nemours, Aumale, and Biskra.

Wind South-Westerly in all the more northern and eastern parts of our Islands, and also over the Baltic Provinces; strong in force on our extreme north-west coasts. Chiefly Southerly in Scandinavia and Denmark, strong in force in the south of Norway. Light from West in the south of our Islands and the west and north of France, variable in the east and south of France; Easterly in Spain, Southerly or South-Easterly in Algeria, North-Westerly or Northerly in Italy, Austria, and Russia. Subsequently veering to the Westward over the greater part of the United Kingdom and to the North-Westward in the west of France.

Barometer highest, 30·1 ins. to 30·2 ins. and upwards, in an anti-cyclone lying over Austria and the south of Russia. Lowest, 29·4 ins. and less, in a depression lying off the north-west of Scotland; very shallow disturbances lying over the Mediterranean and the south of Spain. Depression off the north-west of Scotland subsequently travelling north-eastwards, and new high-pressure system appearing over Bay of Biscay.

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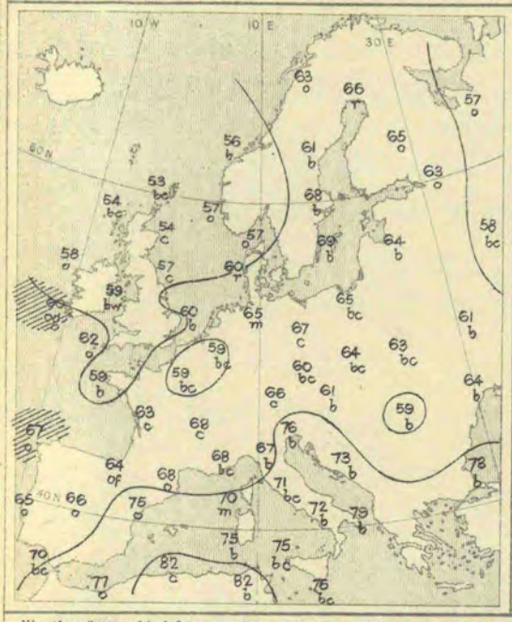
Tuesday, 29th July.

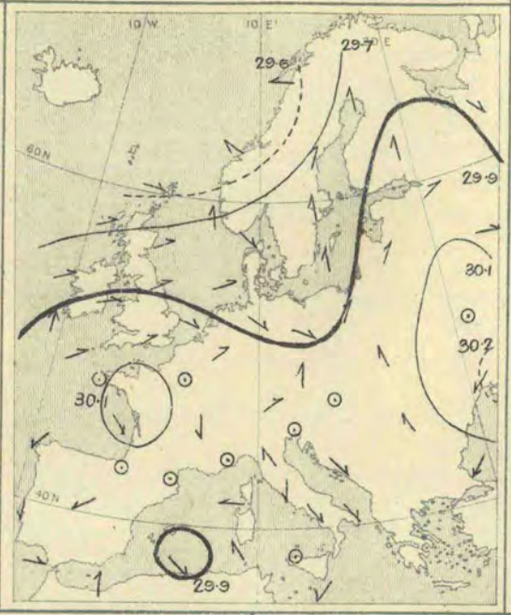
Temperature and Weather.

8 a.m.

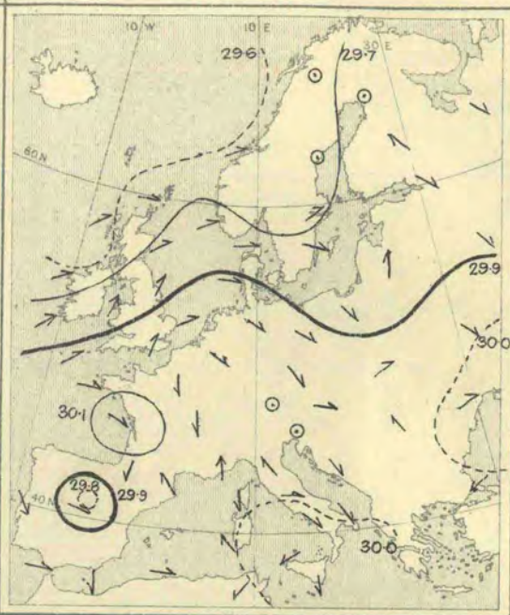


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over the greater part of Europe, as well as in many parts of England and Scotland, overcast and gloomy in Ireland, Denmark, and Spain, rainy at Fanö and Copenhagen. Rain later in most parts of the United Kingdom, and solar or lunar halos seen in the south of England.

Temperature risen over Algeria, south-eastern Europe, and Russia, changed fitfully elsewhere. Morning readings above 70° at most Mediterranean stations, and above 60° in most other places; below 60°, however, in many parts of our Islands and Norway, and as low as 53° at Sumburgh Head, 54° at Stornoway, Ardrossan, and Aberdeen, 56° at Oxford, 59° at Brussels and Paris. Rising later to between 65° and 70° over the eastern and central parts of Great Britain and to 73° in London; exceeding 80° at some of the French stations and reaching 90° or more in Algeria, central Spain, and some parts of Italy.

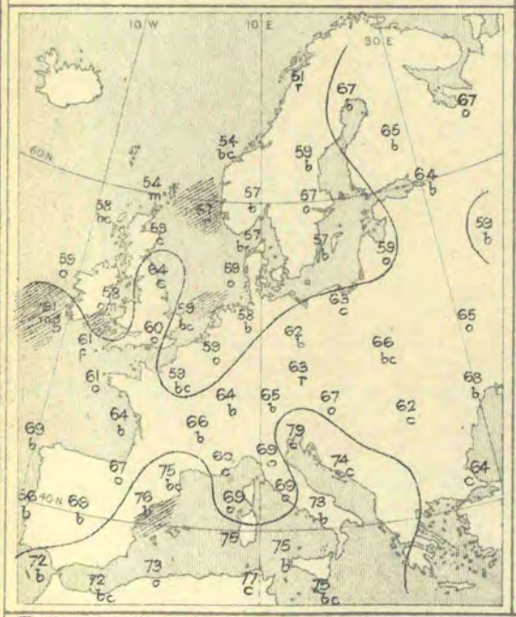
Wind moderate North-Easterly over Spain, very variable over France, Germany, and Russia; Southerly over Austria, Poland, and the Baltic, South-Easterly in Norway, Westerly to South-Westerly over Great Britain, South-South-Westerly to Southerly in Ireland, and blowing strongly at Valencia. Wind freshening at our extreme western and north-western stations generally later, and beginning to back over England, but veering to the South-Westward in Norway.

Barometer highest, 30·2 ins. and more, over southern Russia, 30·1 ins. and more to 30·0 ins. over France and the Bay of Biscay, Portugal and south-eastern Europe. Lowest, 29·6 ins. and less, off our extreme northern coasts and the west of Norway. Gradients moderate to slight. Falling decidedly in the west and north-west of our Islands later, and gradients becoming steep off the west of Ireland for a time. Small depressions appearing over central Spain in evening.

Wednesday, 30th July.

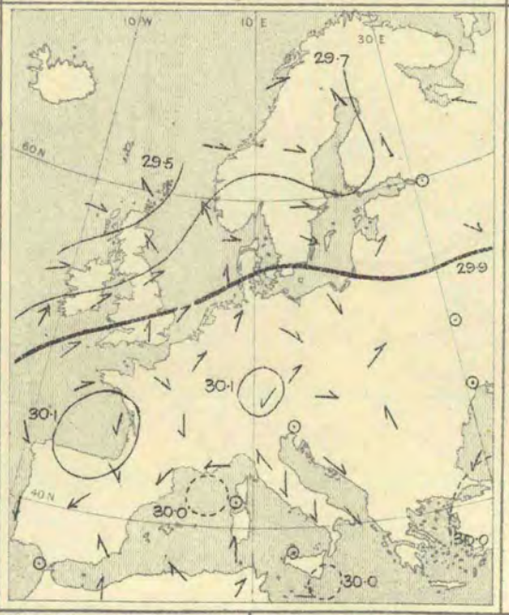
Temperature and Weather.

8 a.m.

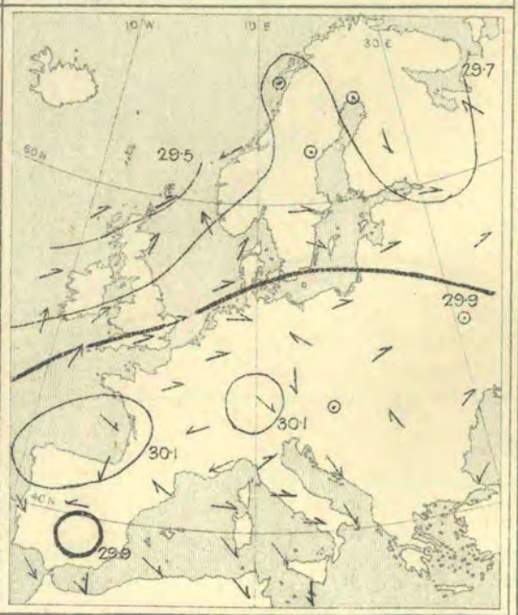


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the north and east of our Islands, as well as over the greater part of the Continent, but dull in the west and south of the United Kingdom; foggy at the mouths of the Bristol and English Channels. Dull weather reported over the north of Italy also; rain falling at Bodö and Skudesnaes. Considerable amounts of rain falling later in Norway, the Hebrides, and north of Ireland; smaller quantities generally in the south-west, west, and extreme north of our Islands, and a little at some Algerian stations.

Temperature highest, 79° at Trieste, 78° at Brindisi, 77° at Tunis, 76° at Barcelona, and 75° at Cagliari, Palermo, Malta, and Aumale; above 65° in Lapland and the extreme north of Russia, and above 60° over the eastern and central parts of Great Britain. Lowest, 51° at Bodö, 54° at Christiansund, Sumburgh Head, and Le Mans, and 57° at Stockholm, Wisby, Faerder, Skudesnaes, and Skagen. Rising during day to between 70° and 75° over the eastern and central parts of Great Britain, to 80° or more in France and Spain, to 90° and more in the south of Italy, and to 106° at Biskra.

Wind South-Westerly over the greater part of our Islands, South-Easterly at Sumburgh Head and Aberdeen, as well as in the west of Norway; fresh or strong in force on our south and east coasts. Moderate from the Westward over Sweden and the Baltic, light from the North-Westward at many of the German and Italian stations; Northerly or North-Easterly in Spain and the west and south of France, Southerly in Algeria. Subsequently increasing to a moderate or fresh gale from the Southward in the west of Ireland and to a fresh or strong breeze over England generally.

Barometer highest, 30·1 ins. and upwards, over the Bay of Biscay and west of France, and also over south Germany; 30·0 ins. and upwards over nearly the whole of southern, eastern, and central Europe. Lowest, 29·5 ins. and less, in a depression lying off the north of Scotland. Depression moving slowly north-eastwards later, but barometer continuing to fall a little over Ireland and England.

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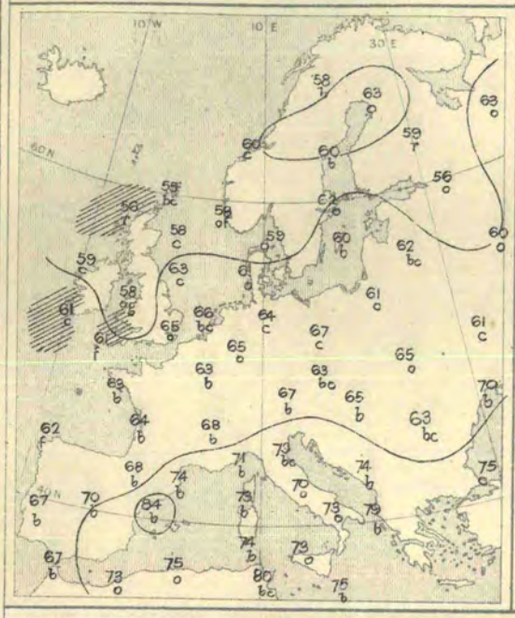
Thursday, 31st July.

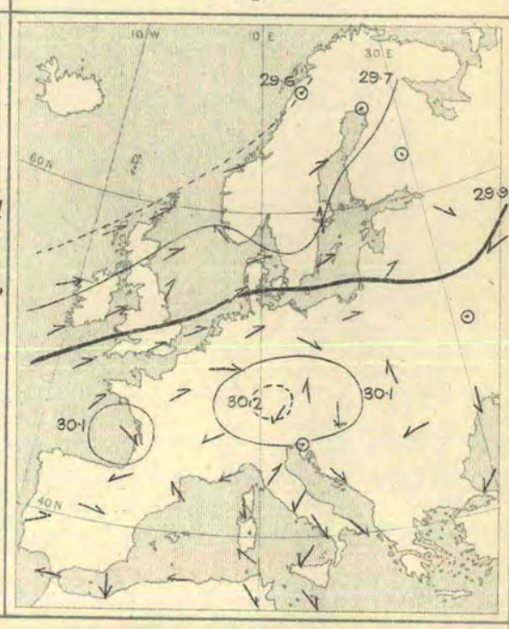
Temperature and Weather. 8 a.m.



Weather fine and bright over south-eastern, western, and central Europe, as well as on the shores of the Mediterranean; cloudy and rather unsettled over the United Kingdom and Norway, with much fog on our south-west coasts and rain in a few localities. Some rain in west and north later, a large quantity over "England S.W." during following night, and considerable local falls at Archangel, Florence, and Nicolaieff.

Temperature fallen decidedly over Finland, risen a little over western Europe, the south of France, and northern Italy. Morning readings exceeding 70° at the Mediterranean, Adriatic, and Black Sea stations; exceeding 60° over the greater part of Europe, but as low as 55° at Sumburgh Head, 56° at Stornoway, 58° at Holyhead, Aberdeen, Skudesnaes, and Bodö. Rising to upwards of 70° in the eastern parts of Great Britain later, to between 75° and 80° over Germany and the north of Sweden, and to between 80° and 90° over France and Italy, and to 106° at Biskra.

Barometer and Wind. 8 a.m. and 6 p.m.

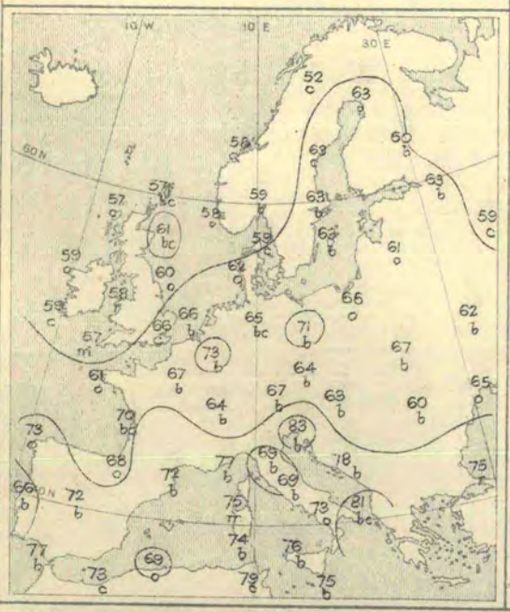


Wind very light and variable over the Continent, South-Westerly over our Islands (fresh to strong at the more southern stations), Southerly in Denmark and the south of Norway, Easterly in the north of Norway. Moderate to light over our Islands subsequently, and becoming variable on our south-west coasts.

Barometer highest, 30·0 ins. to 30·2 ins., over western, southern, central, and south-eastern Europe; exceeding 29·7 ins. over the north of Lapland. Lowest, 29·5 ins. and less, in the neighbourhood of the Farö Isles, and below 29·7 ins. over the eastern parts of Finland. Rising a little over the British Islands later, falling over France and Spain, and also over northern Europe.

Friday, 1st August.

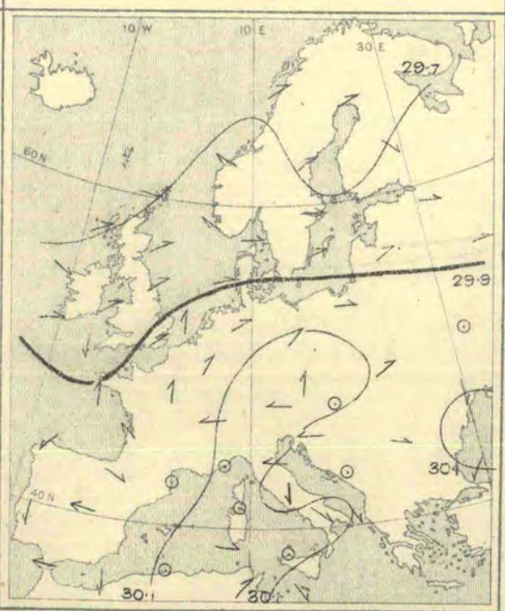
Temperature and Weather. 8 a.m.



Weather rainy in Wales and dull at several of the English stations, with fog in the Channel. Fine in nearly all other parts of Europe, but rain and fog reported over the Gulf of Finland. Heavy rain falling during day in the north of England, and showers in most other parts of the United Kingdom. Thunderstorms occurring in France, Belgium, and the south and east of England.

Temperature highest, 83° at Trieste and Barcelona, 81° at Brindisi, 79° at Toulon and La Calle; above 70° in all parts of southern Europe, and above 65° in the south-east of England. Lowest, 52° at Bodö, 56° at Malin Head, and 57° at Pembroke, Sumburgh Head, Stornoway, Nairn, Leith, Parsonstown, Scilly, and Le Mans. Rising during day to 75° or a little more in the south-east of England, and to between 80° and 90° at many of the French and German stations, as well as over the greater part of southern Europe. Reaching 91° at Paris, 92° at Lyons, and 95° at Clermont.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind light from the Southward over the greater part of the United Kingdom, but Westerly in the south of Ireland, and Northerly (locally) at Scilly. South-Westerly over the Netherlands, Denmark, north Germany, Sweden, and the Baltic; light from the North-Westward or Northward over Italy, Austria, and the south of Russia; variable over the south of France; Easterly or North-Easterly in Spain. Subsequently veering to the North-Westward on the west coasts of our Islands and France.

Barometer highest, 30·1 ins. to 30·2 ins. in an anti-cyclone of irregular form extending from south Germany across northern Italy to the Mediterranean and Algeria, and also in another system lying over the Black Sea. Lowest, 29·7 ins. and less, over the north of Scandinavia and to the north-westward of our Islands, 29·8 ins. and less in a very small depression lying near Penzance. Depression subsequently becoming larger and moving north-eastwards across England.

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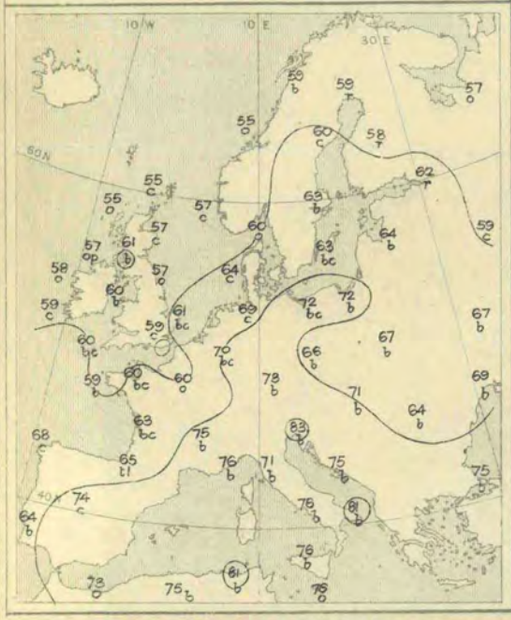
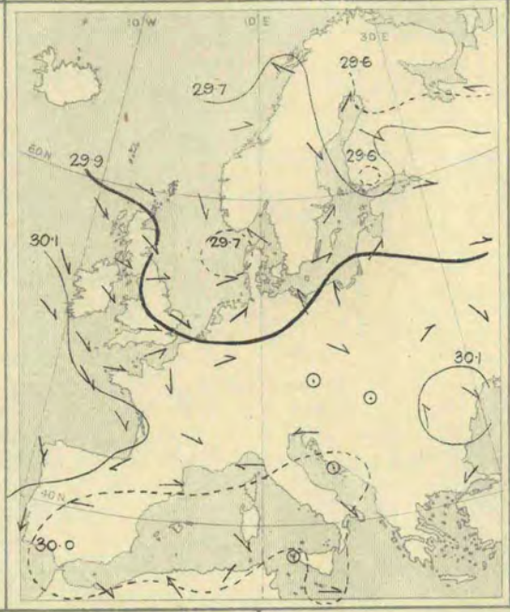
Saturday, 2nd August.

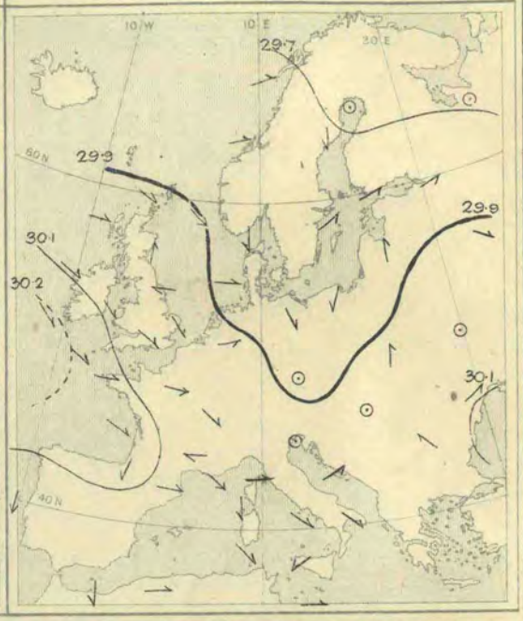
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and unsettled in some of the northern, eastern, and central parts of Great Britain, as well as over northern Europe generally, with rain or passing showers in many places. Fine in all the more central and southern countries, but thunderstorm reported at Biarritz. Thunderstorms occurring during day in many parts of France and the south of England, and rain falling in Germany—heavily (1·1 ins.) at Berlin.

Temperature highest, 83° at Trieste, 81° at Barcelona, Brindisi, and La Calle, and 79° at Leghorn; above 70° over southern and eastern Europe generally, as well as at the German stations. Lowest, 55° at Christiansund, Sumburgh Head, and Stornoway, 56° at Uleaborg, and 57° at Skudesnaes, Wick, Nairn, Aberdeen, Shields, Malin Head, Parsonstown, and Oxford. Daily maxima below 70° in nearly all parts of the United Kingdom, but thermometer exceeding 80° at many of the French and German stations, and exceeding 90° in some parts of Italy and Austria.

Wind light or moderate from the North-Westward over the greater part of our Islands and France, but South-Westerly or Southerly over the Netherlands, Denmark, and Germany. Light from the Westward in Russia, from the Northward in Italy, and from the North-Eastward or Eastward in Spain, but variable in Austria, Algeria, and the south of France. Subsequently veering to the Westward over Denmark and western Germany; no important change occurring elsewhere.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone extending from the Atlantic to the south-west of Ireland and the west of France, and also in another system lying over the Balkan Provinces. Lowest, 29·6 ins. and less, over Lapland and the White Sea, and also in a small depression lying near Helsingfors; 29·7 ins. and less in another depression lying off the north-west of Denmark. All weather systems, both anti-cyclonic and cyclonic, subsequently moving eastwards.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the greater part of this week barometrical pressure has been highest over the central and southern parts of the Continent, while a series of large, but somewhat shallow, depressions have travelled in an east-north-easterly direction from the Atlantic to the northern parts of Scandinavia. South-Westerly breezes have therefore prevailed in all the more north-western countries, with changeable showery weather in the regions bordering on the Atlantic; while in other localities the wind has varied greatly in direction, and the weather has been mostly fine and warm. Towards the close of the period the series of depressions in the north had apparently come to an end, and an anti-cyclone began to spread over our Islands and France from the westward. The wind over western Europe consequently veered to the North-Westward or Northward, with improving weather in the west and north of the United Kingdom. Over England and France, however, the weather on the 1st and 2nd was influenced by some shallow depressions which passed across from the westward, and which occasioned thunderstorms and heavy rain in many places.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of the Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
Week ending July 19th	Fort Augustus	63	38	60·9	47·9	54·0	−3·5	84	0	—	—	—	—	—

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 32.] *Third Series.* WEEK ENDING SATURDAY, 9TH AUGUST, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 188.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	73	39	62·8	50·0	56·0	1 above.	98	+ 10	0	0	1212	+ 78	438	− 72
	1. SCOTLAND, EAST	74	40	66·9	51·9	59·0	2 above.	119	+ 11	0	0	1468	− 42	485	− 58
	2. ENGLAND, N.E.	78	47	68·5	54·8	61·3	3 above.	135	+ 19	0	0	1609	+ 7	389	− 93
	3. ENGLAND, EAST	82	45	70·2	52·9	61·1	1 below.	134	+ 6	0	0	1826	− 48	468	− 39
	4. MIDLAND COUNTIES	81	43	70·9	52·6	61·2	0 (average)	134	+ 10	0	0	1814	− 68	478	− 26
	5. ENGLAND, SOUTH	81	47	70·6	54·2	61·9	0 (average)	139	+ 3	0	0	1961	− 55	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	72	43	65·7	52·7	58·8	1 above.	118	+ 9	0	0	1574	− 14	325	− 73
	7. ENGLAND, N.W.	74	45	67·7	54·6	60·8	1 above.	132	+14	0	0	1697	+ 16	302	− 81
	8. ENGLAND, S.W.	75	42	68·1	54·0	60·6	0 (average)	130	+ 4	0	0	1860	− 57	245	+ 12
	9. IRELAND, NORTH	77	41	67·6	52·9	59·8	1 above.	125	+14	0	0	1652	− 11	294	− 56
	10. IRELAND, SOUTH	75	45	68·3	54·4	60·9	1 above.	132	+13	0	0	1897	+ 2	224	− 15
	— CHANNEL ISLANDS	73	49	66·7	56·2	61·1	0 (average)	134	− 1	0	0	2078	+ 33	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 188.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	8	2 less.	156	+20	29·3	+ 0·2	25	23	734	−134	26	− 3
	1. SCOTLAND, EAST	2	2	6 less.	131	+16	17·5	− 0·8	33	30	879	−123	30	− 3
	2. ENGLAND, N.E.	2	1	5 less.	110	− 1	13·0	− 2·7	44	41	825	−100	28	− 3
	3. ENGLAND, EAST	1	1	5 less.	115	+ 2	14·9	+ 0·3	50	47	1043	− 72	36	− 2
	4. MIDLAND COUNTIES	2	3	3 less.	109	− 3	13·7	− 3·1	40	37	907	− 77	31	− 2
	5. ENGLAND, SOUTH	1	7	2 more.	109	+ 3	17·3	+ 1·7	50	48	972	− 85	33	− 3
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	2	4	8 less.	133	+ 8	28·9*	− 1·5	34	32	933*	− 30	32	0
	7. ENGLAND, N.W.	2	1	7 less.	125	+ 9	18·3	− 0·8	43	40	878	− 87	30	− 2
	8. ENGLAND, S.W.	2	9	1 more.	129	+ 7	23·0	− 1·2	48	46	999	−131	34	− 4
	9. IRELAND, NORTH	2	2	6 less.	145	+ 5	18·6	− 2·1	28	27	899	− 1	30	0
	10. IRELAND, SOUTH	2	3	5 less.	140	+ 9	24·9	+ 1·8	48	46	948	− 68	32	− 2
	— CHANNEL ISLANDS	1	3	2 less.	130	0	21·2	+ 3·1	78	76	1207	−144	42	− 4

General Remarks.

Weather has been mostly fine and dry, but showers were rather frequent at the extreme western and northern stations during the earlier part of the time, while thunderstorms and heavy rain were experienced in the south-east of England at the end of the week.

Temperature has differed very little from the normal. In most of the western and northern districts there has been a slight excess, but over a considerable portion of England there has been no appreciable departure from the mean; in "England E." a trifling deficit is shown. The highest readings were observed on the 4th or 5th over Great Britain, and on the 8th in Ireland, the thermometer rising to 77° in "Ireland N.," to 78° in "England N.E.," to 81° in the "Midland Counties" and "England S.," and to 82° in "England E." The lowest readings, which were observed at various times in the different districts, ranged from 39° in "Scotland N." to 47° in "England N.E." and "England S.," and to 49° in the "Channel Isles."

Rainfall has been considerably less than the mean in all but the southern and south-western parts of England, where a heavy downpour accompanied the thunderstorm of the 9th. At some of our extreme southern stations the amounts measured on the morning of the 10th exceeded an inch, the largest of all being 1·9 ins. at Prawle Point.

Bright Sunshine has been, upon the whole, considerably more abundant than it was during the preceding week, the percentage of the possible amount ranging from 23 in "Scotland N." and 27 in "Ireland N." to 48 in "England S.," 49 in "England E.," and 76 in the "Channel Islands."

Barometer and Wind.—The distribution of pressure over our Islands has been mostly anti-cyclonic. At the commencement of the week the high-pressure system lay to the south-westward of our Islands, but on the 4th and 5th it spread eastwards to the Netherlands and Germany. After the latter date, however, it moved slowly northwards, and the wind over our Islands, which had previously been Westerly or South-Westerly, shifted gradually to the Eastward. By the close of the week the system had reached Scandinavia and the northern parts of the North Sea, and a depression was advancing steadily towards our south-west coasts from the neighbourhood of Portugal.

* This value has been altered owing to the receipt of further information.

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III.– DATA from which the SUMMARY on page 187 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	61	50	57·6	50·1	53·6	—0·3	81	0	5	0·35	—0·25	*	*
	Stornoway	68	48	62·7	51·0	56 5	+1·8	102	0	3	0·38	—0·38	35·0	32
	Wick	68	40	63·4	46·0	54·2	—0·9	85	0	3	0·51	—0·01	*	*
	Lairg Ⓢ	72	39	65·4	49·0	56·7	+1·7	103	0	4	0·59	—0·06	*	*
	Glencarron Ⓢ	73	46	63·7	50·9	56·9	+2·0	104	0	3	2·11†	+0·68	?	?
	Fort Augustus Ⓢ	69	44	63·7	53·0	58·0	+0·5	112	0	3	0·57†	?	18·6	17
	Fort William Ⓢ												21·4	20
1. SCOTLAND, E.	Nairn	73	47	66·0	52·4	58·9	+1·5	118	0	3	0·42	—0·18	*	*
	Aberdeen	74	44	67·7	53·0	59·9	+3·0	125	0	6	0·23	—0·46	36·5	33
	Braemar Ⓢ	70	40	65·4	49·9	57·2	+2·7	106	0	2	0·17	—0·64	36·0‡	33‡
	Ochtertyre Ⓢ	71	45	68·1	52·3	59·7	+2·2	124	0	1	0·02	—0·76	*	*
	Leith Ⓢ	73	46	67·0	52·7	59·4	+1·1	122	0	1	0·02	—0·58	23·4‡	22‡
	Marchmont Ⓢ	69	46	67·1	51·1	58·6	+2·3	116	0	1	0·05	—0·73	34·0	31
2. ENGLAND, N.E.	Alnwick Castle	71	50	65·0	55·1	59·8	+2·7	125	0	3	0·18	—0·49	*	*
	Durham	78	47	70·4	52·9	61·1	+3·5	134	0	4	0·21	—0·43	42·2	39
	Shields	75	50	67·6	55·4	61·1	+3·1	134	0	2	0 08	—0·54	*	*
	Scarborough ℳ	78	51	69·7	55·1	62·0	+2·8	140	0	1	0·02	—0·58	45·0‡	42‡
	York	78	49	72·9	54·1	62·9	+2·5	146	0	2	0·04	—0·52		
	Spurn Head	71	53	65·4	56·3	60·6	+0·8	130	0	0	—	?	*	*
3. ENGLAND, E.	Hillington ℳ	82	45	71·1	52·0	61·0	+0·6	133	0	0	—	—0·60	41·3	39
	Yarmouth	70	54	65·6	56·0	60·5	—0·7	130	0	1	0·01	—0·51	*	*
	Geldeston	78	50	69·5	52·3	60·4	—0·8	129	0	1	0·04	—0·42	57·9	55
	Cambridge	82	45	73·6	51·9	62·1	—0·3	141	0	2	0·07	—0·45		
	Rothamsted	79	48	70·4	52·2	60·8	—1·1	132	0	2	0·16	—0·43	*	*
	Ingatestone	77	50	71·0	53·1	61·5	—1·1	137	0	2	0·17	—0·32	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	80	45	72·9	53·3	62·5	+1·5	144	0	2	0·04	—0·55	37·6‡	35‡
	Loughborough	81	50	74·4	54·7	64·0	+2·2	154	0	1	0·03	—0·52	42·7‡	40‡
	Cheadle ℳ	73	49	68·1	52·2	59·7	—0·2	124	0	1	0·09	—0·70	*	*
	Churchstoke ℳ	72	43	68·0	50·6	58·8	—1·1	118	0	1	0·60	+0·01	28·7	27
	Hereford ℳ	76	46	71·1	53·3	61·7	+0·3	138	0	2	0·74	+0·19	*	*
	Cirencester	75	44	69·9	50·7	59·7	—1·4	124	0	2	0·61	—0·12	42·0	40
	Oxford	77	50	71·7	53·6	62·1	+0·7	141	0	2	0·11	—0·44	47·1	45
5. ENGLAND, S.	London	81	52	72·6	54·7	63·1	0·0	148	0	1	0·29	—0·21	37·7‡	36‡
	Strathfield Turgiss ℳ	79	48	72·6	51·4	61·4	0·0	136	0	2	0·30	—0·21	*	*
	Dungeness	72	50	68·1	55·1	61·2	—0·5	134	0	1	0·19	—0·24	52·1‡	50‡
	Hastings (St. Leonards)	73	51	69·3	56·2	62·4	+0·9	143	0	2	1·37	+0·88	48·7	47
	Southampton	79	52	73·6	54·4	63·4	+1·7	150	0	1	1·23	+0·65	58·4	56
	Hurst Castle	72	52	69·0	55·3	61·7	+0·4	138	0	1	0 54	+0·04	*	*
	Stowell ℳ	74	47	69·1	52·0	60·0	—0·6	126	0	1	0·88	?	?53·4‡	51‡
6. SCOTLAND, W.	Laudale (Loch Sunart) Ⓢ	72	51	66·4	52·2	58·9	+1·9	118	0	4	1·48†	+0·33	*	*
	Glasgow	69	51	65·8	54·0	59·6	+2·2	125	0	2	0·16	—0·68	20·3	19
	Ardrossan Ⓢ	71	51	64·7	54·3	59·2	+1·5	120	0	1	0·06†	—0·79	*	*
	Glenlee Ⓢ	71	43	66·9	50·7	58·3	+0·7	114	0	2	0·04	—0·94	*	*
	Douglas (Isle of Man)	66	44	64·6	52·2	58·0	+0·3	112	0	0	—	—0·77	46·9	44
7. ENGLAND, N.W.	Newton Reigny	70	45	67·9	51·4	59·2	+0·7	120	0	1	0·01	—0·68	47·0	44
	Stonyhurst	70	51	67·3	54·1	60·3	+1·1	128	0	2	0·08	—0·94	42·4	40
	Blackpool ℳ	71	53	68·1	56·0	61·7	+1·4	138	0	3	0·15	—0·55	38·0	35
	Manchester	73	50	68·3	54·3	61·1	+0·6	134	0	1	0·01	—0·80	*	*
	Liverpool Obsy. (Bidston)	74	53	68·6	56·4	62·1	+1·4	141	0	3	0·06	—0·57	*	*
	Llandudno ℳ													
	Holyhead	69	52	65·7	55·6	60·4	+0·7	129	0	3	0·08	—0·53	*	*
8. ENGLAND, S.W.	Llandovery	74	42	71·0	52·9	61·4	+0·9	136	0	3	0·29	—0·69	*	*
	Pembroke	66	56	63·7	57·4	60·4	+0·8	129	0	3	0·34	—0·29	57·1	54
	Arlington (N. Devon)	75	50	67·7	53·4	60·1	—0·3	127	0	1	0·97	—0·27	*	*
	Cullompton ℳ	74	47	71·7	50·5	60·5	—1·0	130	0	1	1·03	+0·41	44·8	43
	Falmouth	69	53	65·8	55·4	60·3	—0·3	128	0	1	1·17	+0·39	40·7	39
	Plymouth	75	51	71·9	56·0	63·5	+1·8	151	0	1	0·81	+0·18	48·4	47
	Prawle Point	68	51	64·6	52·7	58·3	—1·5	114	0	1	1·85	?	*	*
9. IRELAND, N.	Malin Head	67	52	63·6	55·9	59·5	+2·4	123	0	3	0·21	?	*	*
	Londonderry	76	45	71·6	52·3	61·4	+2·9	136	0	3	0·08	—0·71	*	*
	Mullaghmore	72	51	66·4	55·0	60·4	+1·0	129	0	3	0·22	—0·58	*	*
	Belmullet	75	53	66·4	56·1	60 9	+3·2	132	0	3	0·54	?	*	*
	Markree Castle	73	41	68·5	48·3	57·8	—1·6	111	0	2	0·08	—0·72	27·2	25
	Brookeborough	73	42	67·5	49·3	57·9	—1·7	111	0	2	0·13	?	*	*
	Armagh	70	45	67·3	50·7	58·5	—1·1	116	0	1	0·01	—0·62	29·6	28
	Donaghadee	77	55	68·3	57·0	62·3	+4·1	142	0	2	0·02	—0·63	*	*
	Edgeworthstown	72	47	68·4	51·9	59·7	+0·1	121	0	3	0·06	—0·73	*	*
10. IRELAND, S.	Dublin	75	53	67·9	56·3	61·8	+2·1	139	0	2	0·22	—0·40	41·4	39
	Parsonstown	74	47	70·4	52·4	60·9	+1·6	132	0	2	0·13	—0·63	47·7	45
	Kilkenny	74	47	68·9	52·9	60·4	+0·5	129	0	1	0·21	—0·44	*	*
	Waterford	70	49	67·6	54·3	60·6	+0·3	130	0	3	0·37	—0·36	*	*
	Roche's Point	66	50	65·1	56·3	60·4	0·0	129	0	2	0·27	—0·48	*	*
	Valencia	74	51	67·1	55·6	61·0	+1·8	133	0	2	0·21	—0·78	55·3	53
	Killarney	73	45	68·9	53·3	60·6	+1·1	130	0	2	0·50	?	*	*
	Foynes	74	52	70·1	53·7	61·4	+2·5	136	0	2	0·37	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	65	55	63·9	58·6	60·0	—0·8	126	0	1	0·40	—0·13	*	*
	Jersey	73	49	69·4	55·7	62·1	+0·1	141	0	1	0·21	—0·29	78·1	76

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

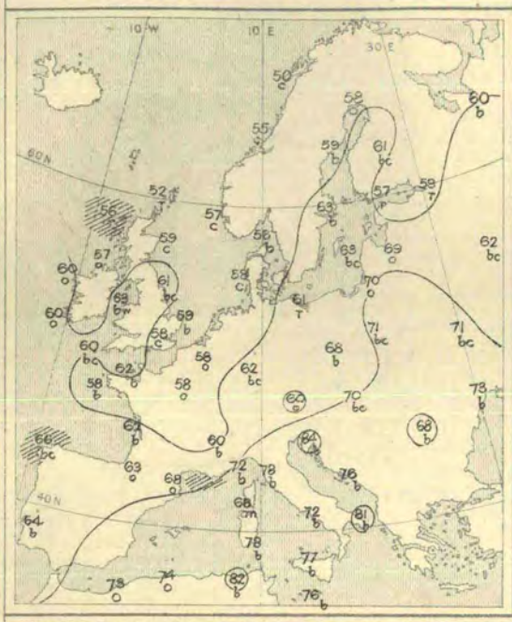
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 3rd August.

Temperature and Weather.

8 a.m.

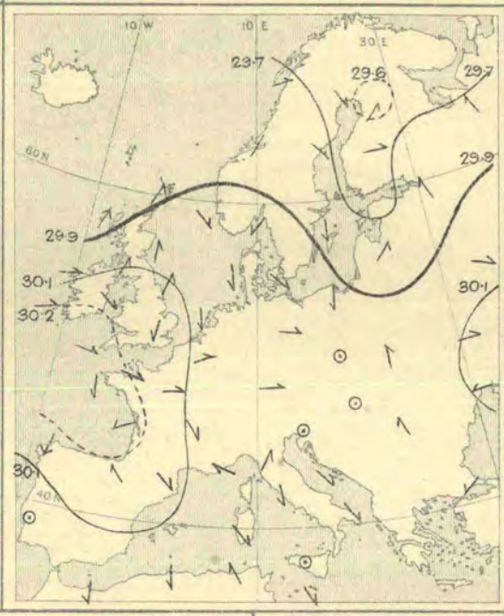


Weather fine over the greater part of our Islands and the Continent, but dull in the extreme west and north of the United Kingdom, and also over north Germany and the Gulf of Finland. Rainy in the Shetlands and Hebrides, as well as at Helsingfors, St. Petersburg, and Swinemunde. Slight rain falling later in all the more northern parts of our Islands, and heavy rain (1·3 ins.) at Bodö and Helsingfors.

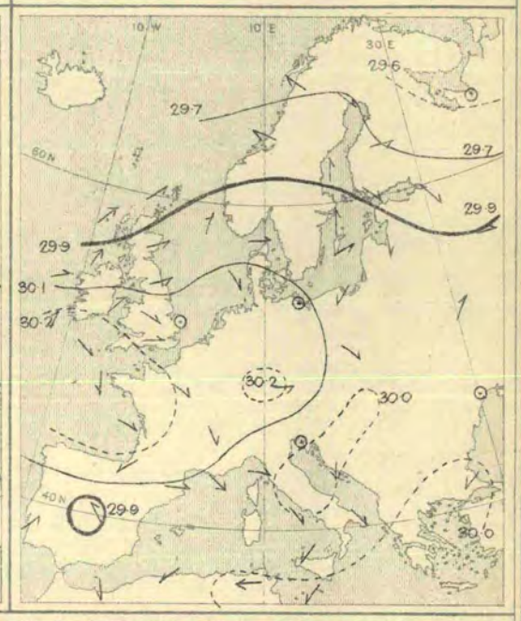
Temperature highest, 84° at Trieste, 82° at La Calle, 81° at Brindisi, and 78° at Leghorn, Cagliari, and Tunis; above 70° over southern and eastern Europe generally. Lowest, 50° at Bodö, 52° at Sumburgh Head, 55° at Christiansund and Wick, and 56° at Stornoway, Roche's Point, and Le Mans; below 60° in many parts of north-western Europe. Rising during day to between 70° and 75° in several parts of western Europe, and to 80° or more over the southern countries generally. Highest readings of all, 100° at Biskra, 96° at Madrid, and 93° at Rome and Aumale.

Barometer and Wind.

8 a.m.



6 p.m.



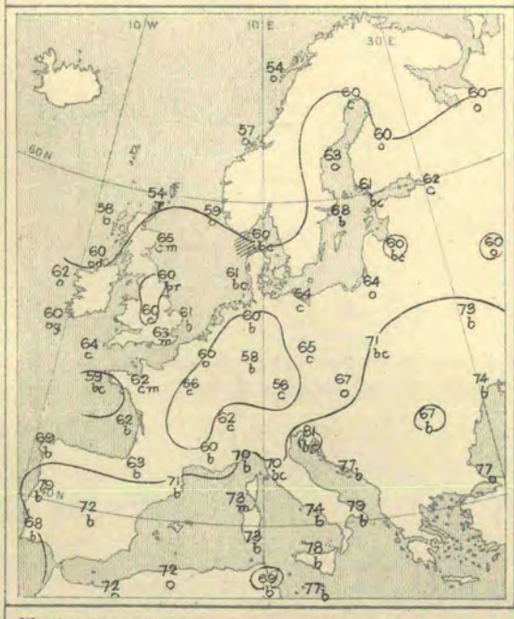
Wind light or moderate from the South-Westward over the northern parts of the United Kingdom, as well as in the west of Norway and the north of Russia. Light from the North-Westward or Northward over the south of our Islands, the greater part of France, and the Netherlands; Easterly or South-Easterly in the south-west of France, calm or light and variable over Germany, Austria, and the south of Russia; Northerly in Algeria. Subsequently backing to the Westward over the south of our Islands, but no important change occurring elsewhere.

Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over the Bay of Biscay, the west of France, and the south-west of our Islands; 30·1 ins. and upwards in another system lying over the south of Russia. Lowest, 29·6 ins. and less, in a very small depression lying near Uleaborg, 29·7 ins. and less over the greater part of Lapland and Finland. Anti-cyclone over Bay of Biscay subsequently spreading eastwards; depressions beginning to move north-eastwards along our extreme west and north-west coasts.

Monday, 4th August.

Temperature and Weather.

8 a.m.

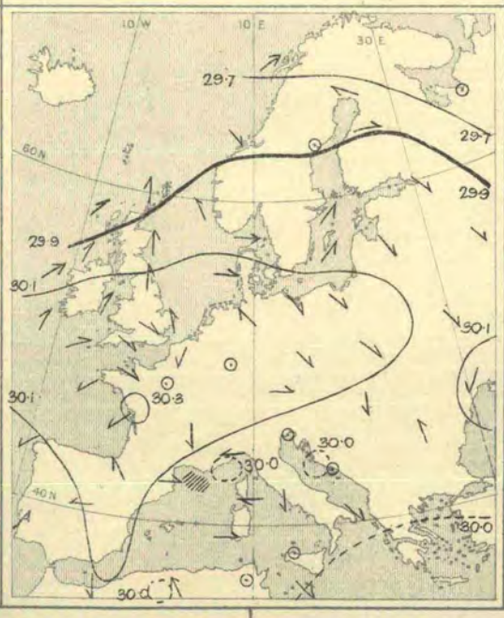


Weather fine over the greater part of Europe, but dull in the north and extreme west of our Islands, as well as at the Norwegian and several of the German stations. Rain falling at Sumburgh Head, Shields, and in the north of Ireland, and also at Breslau. Weather improving later at many of our northern stations, but remaining dull and unsettled in the extreme west of the United Kingdom. Thunderstorms, with very heavy rain, occurring in some parts of Austria and northern Italy.

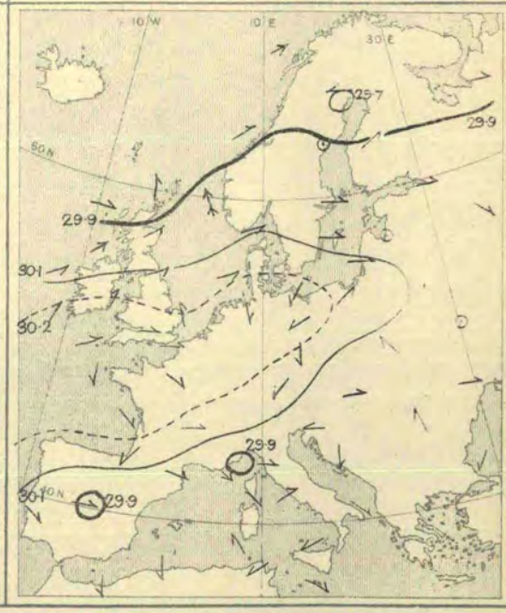
Temperature highest, 81° at Trieste, 79° at Brindisi and Oporto, and 78° at Palermo and La Calle; above 70° in most parts of southern and eastern Europe, and above 65° in the south of Sweden. Lowest, 54° at Bodö and Sumburgh Head, 55° at Stornoway, 56° at Paris and Munich, and 57° at Christiansund and Lorient. Subsequently rising to between 70° and 75° in many parts of the United Kingdom, and reaching 77° at Donaghadee and 78° at Loughborough. Exceeding 80° over France, southern Europe, and Algeria, the highest readings of all being 97° at Madrid and 95° at Aumale and Biskra.

Barometer and Wind.

8 a.m.



6 p.m.



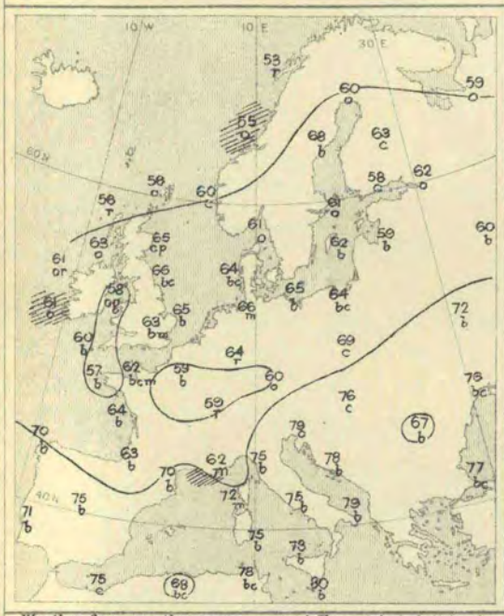
Wind light or moderate from the Southward or South-Westward over the greater part of the United Kingdom, but Westerly in the south-east of England, and also in Denmark; variable or South-Westerly in Scandinavia. Light from the North-Westward or Northward over Germany, Russia, Italy, and Austria, and from the North-Eastward or Eastward at some of the French and Spanish stations; variable in Algeria. Subsequently shifting to the North-Westward in France and to the Westward in Italy; little change elsewhere.

Barometer highest, 30·2 ins. to 30·3 ins., in a large anti-cyclone covering Germany, France, the Bay of Biscay, and the south of our Islands; 30·1 ins. and upwards in another system lying over the south of Russia. Lowest, 29·7 ins. and less, over the extreme northern parts of Russia and Scandinavia. Shallow depressions moving north-eastwards along the extreme north-west and north of our Islands on their way to Scandinavia. No important change during day.

Judd & Co Lte Lith. 73 & 75, Farringdon Rd & Doctors Commons

Tuesday, 5th August.

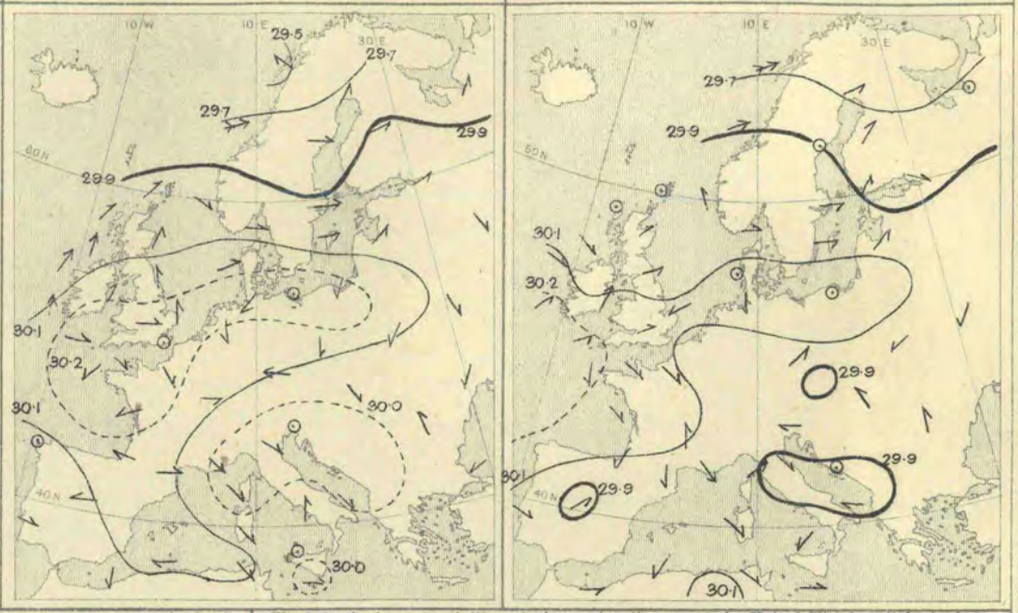
Temperature and Weather. 8 a.m.



Weather fine over the greater part of Europe, but dull in the extreme west and north of our Islands, as well as at some of the Scandinavian and German stations, with rain at Stornoway and Belmullet, and also at Wiesbaden and Belfort. Rain falling later in nearly all the more western and northern parts of the United Kingdom; amounts slight in most places, but rather heavy in the north of Scotland. Thunderstorms occurring at some of the German and Austrian stations, and heavy rain falling at Nancy and Besançon.

Temperature highest, 80° at Malta, 79° at Trieste and Brindisi, and 78° at Lesina, Palermo, La Calle, and Tunis; above 70° over southern and eastern Europe generally, and just reaching that level at Leith and Cambridge. Lowest, 56° at Sumburgh Head and Stornoway, 57° at Brest and Lorient, 58° at Helsingfors and Holyhead; a little below 60° over central France. Subsequently rising to 80° or a little more over the inland parts of England, but remaining below 70° at many of our western and southern stations. Exceeding 90° in many parts of Algeria and southern Europe, the highest readings of all being 102° at Madrid and Biskra and 97° at Cape Bearn.

Barometer and Wind. 8 a.m. and 6 p.m.

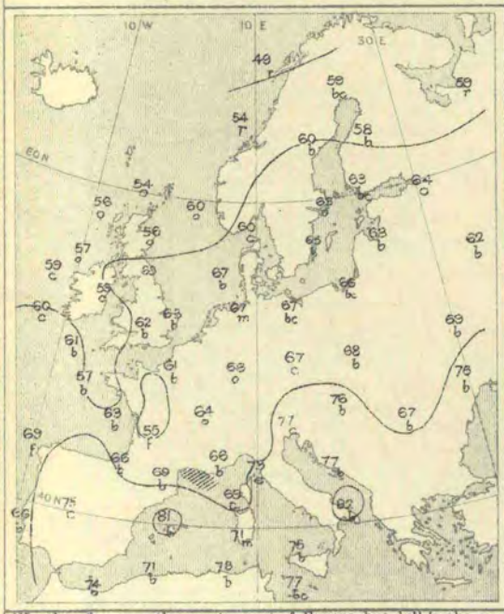


Wind Southerly or South-Westerly in nearly all parts of the United Kingdom, light in force generally, but fresh or strong in the west of Ireland; Westerly over Scandinavia, Denmark, and northern Russia, with a gale at Christiansund. Light from the Eastward or North-Eastward over the greater part of Spain, France, and central Europe, but variable in Italy and the south of Russia, and North-Westerly or Northerly in Algeria. Subsequently veering to the North-Westward in the north of Ireland, and shifting to the same quarter in the west of France; South-Westerly gale setting in at Bodö.

Barometer highest, 30·2 ins. and upwards, in a large anti-cyclone covering the Bay of Biscay, France, the Netherlands, North Germany, and the southern parts of our Islands. Lowest, 29·5 ins., in a well-defined depression lying off the north-west of Norway; other disturbances lying to the westward of our Islands; shallow system, with readings below 30·0 ins., lying over the Adriatic, northern Italy, and the Gulf of Genoa. Low-pressure systems in far west subsequently advancing eastwards over our western and northern districts; new depression appearing over central Spain.

Wednesday, 6th August.

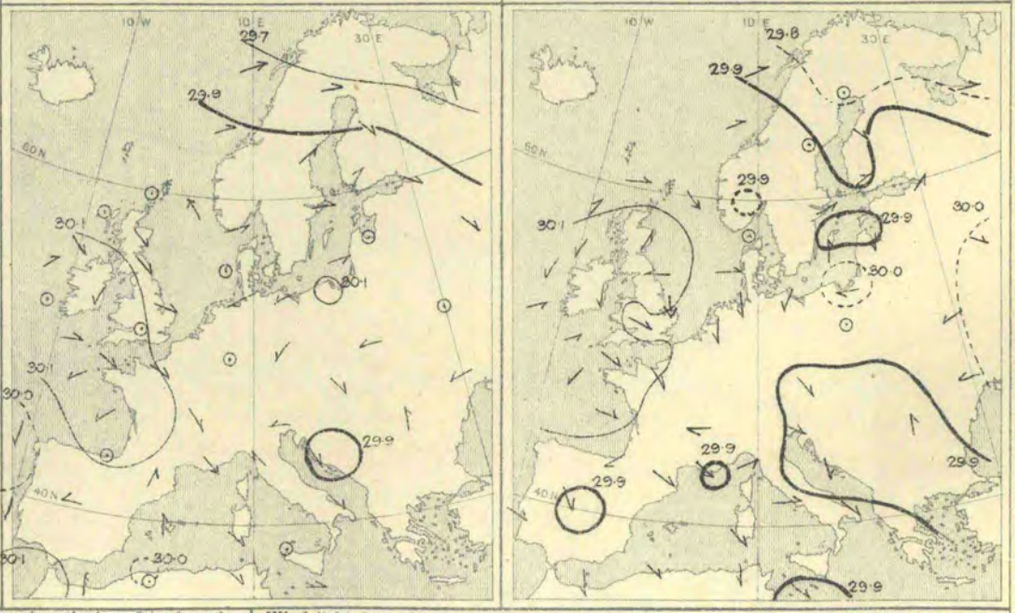
Temperature and Weather. 8 a.m.



Weather fine over the greater part of Europe, but dull in the west and north of our Islands, and also in the west of Norway, with rain in many places. Rain falling later in Germany and the south of France—heavily (1·7 ins.) at Munich. Thunderstorms, with heavy rain (1·3 ins.), occurring at Breslau.

Temperature highest, 82° at Brindisi, 81° at Palma, 78° at La Calle, and 77° at Trieste, Lesina, Barcelona, and Malta; above 70° over southern and eastern Europe generally. Lowest, 49° at Bodö, 54° at Christiansund, Sumburgh Head, and Nairn, and 55° at Lorient and Limoges; below, 60° in nearly all the more western and northern parts of the United Kingdom. Subsequently rising to between 75° and 80° over the inland parts of England, and reaching 84° at Berlin and 88° at Nice. Exceeding 90° in some parts of Italy, Spain, and Algeria, the highest readings of all being 106° at Biskra and 100° at Madrid and Cape Bearn.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind light from the North-Westward over the eastern parts of Great Britain and France, and from the Northward or North-Eastward over Portugal, the Bay of Biscay, and the eastern part of the Channel. Light from the Westward or South-Westward in the west and south-west of our Islands, and moderate or strong from the same quarters in Scandinavia. Easterly in Germany, Northerly or North-Westerly in Italy and Algeria, variable in Austria and the greater part of Russia. Subsequently becoming variable in nearly all parts of the United Kingdom and shifting to the North-Westward over the eastern shores of the North Sea.

Barometer highest, 30·1 ins. and upwards, in a large anti-cyclone covering the greater part of England, Ireland, and France, as well as in smaller systems lying respectively over north Germany, the south of Russia, and Morocco. Lowest, 29·7 ins. and less, over Lapland and the White Sea, 29·9 ins. and less in a shallow depression lying over the eastern shores of the Adriatic. Anti-cyclone over our Islands subsequently spreading northwards; shallow disturbance appearing over central Spain.

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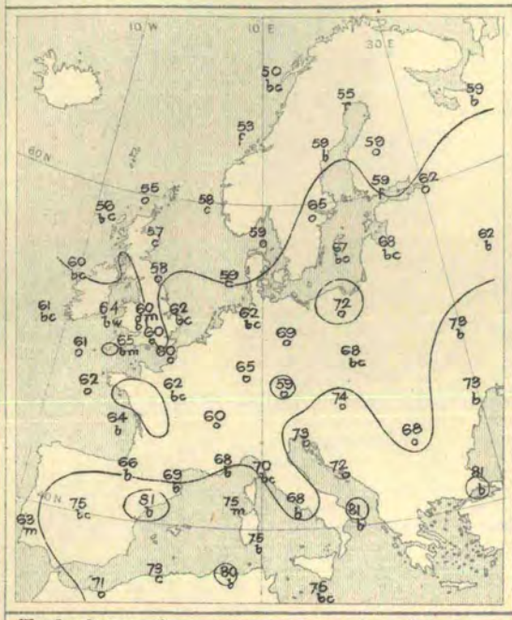
Thursday, 7th August.

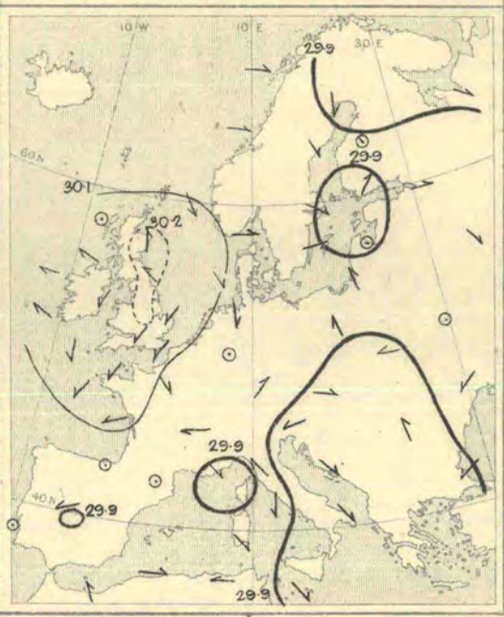
Temperature and Weather.

8 a.m.

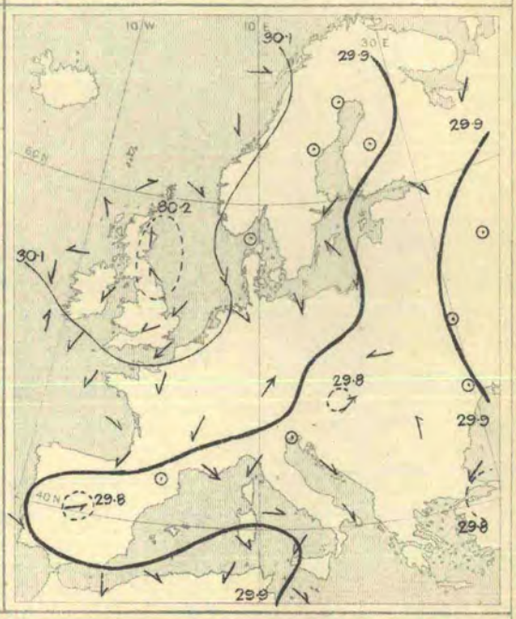


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over the greater part of Europe, but dull at several of the English stations, as well as in Lapland, Finland, Germany, and Austria, with fog or haze locally, and rain at Haparanda. Some rain falling later in Germany, with a thunderstorm at Breslau, but weather remaining dry in all the more western countries.

Temperature highest, 81° at Barcelona, Brindisi, and Constantinople, 80° at La Calle, and 75° at Madrid, Sanguinaire, Cagliari, and Malta; above 70° in most parts of southern and eastern Europe. Lowest, 50° at Bodö, 53° at Christiansund, 55° at Haparanda and Sumburgh Head, and 56° at Stornoway; below 60° in many parts of north-western Europe. Daily maxima very little above 70° in any part of the United Kingdom, but thermometer exceeding 80° at some of the French and German stations, and reaching 90° in some parts of Algeria and southern Europe. Highest readings of all, 104° at Biskra, 102° at Laghouat, and 98° at Madrid.

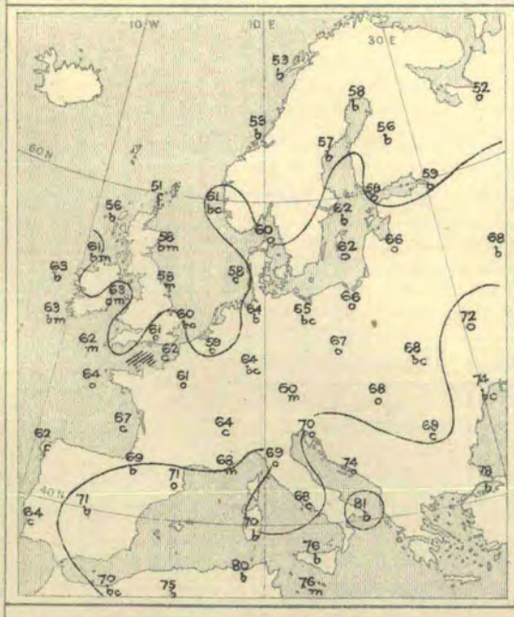
Wind light from the North-Eastward over the greater part of England and France, as well as in the south of Russia, and from the Eastward or South-Eastward in Ireland. Calm or variable in Scotland, and also in Spain and Algeria; Northerly or North-Westerly over the greater part of Scandinavia, Denmark, Germany, and Italy; Westerly or South-Westerly over northern Russia, and also in the west of Norway. North-Easterly breeze freshening later over the Straits of Dover.

Barometer highest, 30·2 ins. and upwards, in the north of England and the east of Scotland; 30·1 ins. and upwards in an anti-cyclone covering the whole of our Islands and the North Sea, with the north and north-west of France. Lowest, 29·9 ins. and less, over Lapland and the extreme north of Russia, and also in three shallow depressions lying respectively over the northern part of the Baltic, over Corsica and the Gulf of Genoa, and over central Spain. Spanish disturbance subsequently moving slowly northwards; depression over Baltic dispersing quickly.

Friday, 8th August.

Temperature and Weather.

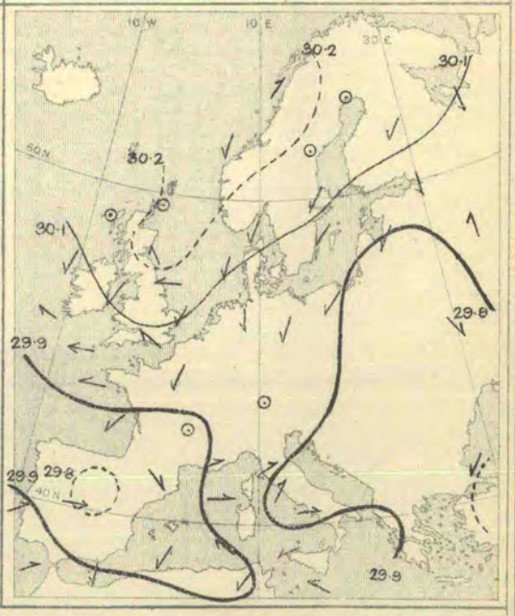
8 a.m.



Barometer and Wind.

8 a.m.

6 p.m.



Weather still fine over the greater part of Europe, but hazy at several of the British and Irish stations and foggy at Sumburgh Head. Dull over Austria, eastern Germany, and the Baltic Provinces, with rain at Memel. Slight rain falling later in the east and south-east of England, and also in some parts of Germany. Thunderstorms occurring at many of the French stations.

Temperature highest, 81° at Brindisi, 80° at Barcelona and La Calle, 78° at Constantinople, and 76° at Palermo and Malta: above 70° in most parts of southern and eastern Europe. Lowest, 51° at Sumburgh Head, 52° at Archangel, 53° at Bodö and Christiansund, 55° at Nairn, and 56° at Ulealborg, Kuopio, and Stornoway. Daily maxima over Great Britain mostly below 70°, but thermometer reaching 74° at Parsonstown and Valencia and 75° at Belmullet. Exceeding 80° in most parts of southern Europe, and also in Algeria, the highest readings of all being 106° at Biskra and 102° at Laghouat.

Wind Easterly or North-Easterly over England, Ireland, and France, light or moderate in force generally, but fresh at some of the Channel stations; Southerly or South-Easterly in Scotland and the west of Norway. Light from the Northward over Sweden, Finland, the Baltic, central Europe, and Italy; variable in Spain and Algeria. No important change occurring during day.

Barometer highest, 30·2 ins. and upwards, over Scotland, the north-east of England, and the adjacent parts of the North Sea, and also over the west of Norway; 30·1 ins. and upwards in a large anti-cyclone covering Scandinavia, the North Sea, and the greater part of the United Kingdom. Lowest, 29·8 ins. and less, in a depression lying over the south of Austria, 29·9 ins. and less in a shallow elongated system extending from the Portuguese coasts to Corsica, Sardinia, and the adjacent parts of the Mediterranean. Latter disturbance subsequently spreading northwards over France and the Bay of Biscay.

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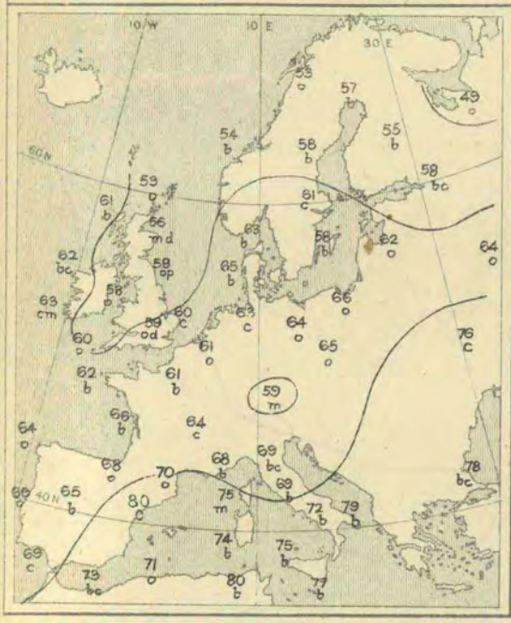
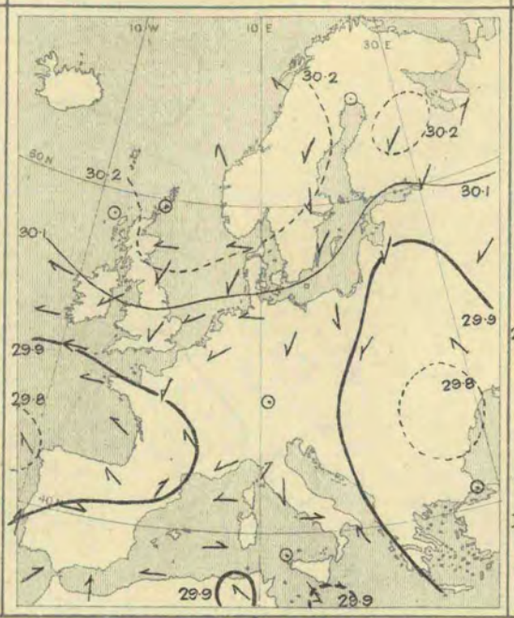
Saturday, 9th August.

Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.

Weather cloudy and misty in most parts of the United Kingdom, with drizzling rain at some of our eastern and central stations. Dull also over the Netherlands, Germany, and the west and north of Spain, but fine in most of the northern, eastern, and southern countries of Europe. Sky clearing later in many parts of the United Kingdom and Germany, but thunderstorms, with heavy rain, occurring over the Channel and south of England at night.

Temperature highest, 80° at Barcelona and La Calle, 79° at Brindisi, and 78° at Constantinople and Tunis; above 70° in most parts of southern and eastern Europe. Lowest, 49° at Archangel, 53° at Bodö and Sumburgh Head, 54° at Christiansund, 55° at Kuopio, and 56° at Aberdeen and Leith; below 60° in most parts of Great Britain. Daily maxima over our Islands mostly below 70°, but thermometer rising above 80° in nearly all parts of southern and eastern Europe, above 90° in isolated places, and above 100° in central Algeria.

Wind Easterly over our Islands and the west of France, fresh in force on our south and south-west coasts. Light from the North-Eastward or Northward over northern, eastern, and a portion of central Europe; variable in Italy, south Germany, and the east of France. Southerly in Spain, South-Easterly or Easterly in Algeria. Subsequently veering to the Westward over the Iberian Peninsula.

Barometer highest, 30·2 ins. and upwards, in a large anti-cyclone lying over Scandinavia, the east of Scotland, and the northern parts of the North Sea, and also in a smaller system lying over Finland. Lowest, 29·8 ins. and less, in a depression off the north-west of Spain, and also in another system (very shallow) lying over the south of Russia. Spanish depression subsequently travelling steadily in a northerly direction towards the south-west of our Islands.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the early part of the week a large anti-cyclone extended gradually from the Atlantic over Ireland, England, France, and Germany, while a series of depressions travelled eastwards across the northern parts of Scandinavia. Shallow areas of low pressure also existed over various parts of southern and eastern Europe. After the 5th, however, the eastern portion of the anti-cyclone gave way (owing to the movement in a south-easterly direction of the Scandinavian depressions) while the main body of the system travelled slowly northwards. The winds over northern and north-western Europe, which had previously been from some Westerly or South-Westerly point, consequently shifted to the Eastward, and freshened decidedly over the English Channel and the Bay of Biscay. Towards the close of the week a large and somewhat complex area of low pressure advanced steadily northwards from Spain across the Bay of Biscay and France to the south of our Islands, and occasioned severe thunderstorms and heavy rain over the south of England.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of the Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
Week ending August 2nd	Douglas (Isle of Man)	66	49	62·9	51·8	57·0	−0·7	105	0	3	0·19	−0·22	38·0	35

Judd & Co.ˡᵗᵈ Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 33.] *Third Series.* WEEK ENDING SATURDAY, 16TH AUGUST, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 194.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	72	42	61·2	50·1	55·3	0 (average)	93	+ 5	0	0	1307*	+ 80	438	− 72
	1. SCOTLAND, EAST	71	40	61·4	51·1	55·9	0 (average)	97	− 11	0	0	1565	− 51	485	− 58
	2. ENGLAND, N.E.	72	47	63·5	53·3	58·1	1 below.	113	− 3	0	0	1722	+ 1	389	− 93
	3. ENGLAND, EAST	73	47	68·0	54·3	60·7	0 (average)	131	+ 3	0	0	1957	− 48	468	− 39
	4. MIDLAND COUNTIES	72	42	66·5	53·1	59·4	1 below.	122	− 2	0	0	1936	− 72	478	− 26
	5. ENGLAND, SOUTH	74	48	67·7	56·8	62·0	1 above.	140	+ 4	0	0	2101	− 52	305	− 68
Principal Grazing &c., Districts.	6. SCOTLAND, WEST	71	42	63·6	52·3	57·6	0 (average)	109	0	0	0	1683	− 14	325	− 73
	7. ENGLAND, N.W.	69	47	63·0	54·3	58·4	2 below.	115	− 3	0	0	1812	+ 12	302	− 81
	8. ENGLAND, S.W.	73	47	64·6	54·9	59·5	1 below.	123	− 3	0	0	1983	− 60	245	+ 12
	9. IRELAND, NORTH	73	37	61·8	51·1	56·1	3 below.	99	−12	0	0	1751	− 24	294	− 56
	10. IRELAND, SOUTH	70	42	63·2	52·2	57·3	2 below.	107	−12	0	0	2004	− 9	224	− 15
	— CHANNEL ISLANDS	74	52	65·2	56·8	60·7	1 below.	131	− 4	0	0	2209	+ 30	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 194.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	5	13	1 more.	160*	+20	30·7*	+ 0·2	29	27	763	−132	25†	− 4
	1. SCOTLAND, EAST	6	18	11 more.	137	+18	19·3	+ 0·3	23	21	902	−134	29	− 4
	2. ENGLAND, N.E.	6	25	19 more.	116	+ 2	15·5	− 0·8	25	24	850	−109	28	− 3
	3. ENGLAND, EAST	5	10	4 more.	121*	+ 5	15·9	+ 0·8	35	34	1078	− 84	36	− 2
	4. MIDLAND COUNTIES	6	10	3 more.	115	0	14·7	− 2·7	36	35	943	− 86	31	− 3
	5. ENGLAND, SOUTH	5	6	1 more.	114	+ 5	17·9	+ 1·8	38	37	1009*	− 96	33	− 3
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	6	16	5 more.	139	+10	30·5	− 1·0	25	24	958	− 40	31	− 1
	7. ENGLAND, N.W.	6	15	7 more.	131	+11	19·7*	− 0·1	24	23	902	−101	30	− 2
	8. ENGLAND, S.W.	6	9	1 more.	135	+10	23·9	− 1·1	40	40	1039	−137	34	− 5
	9. IRELAND, NORTH	6	16	8 more.	151	+ 7	20·2	− 1·2	27	27	926	− 5	30	0
	10. IRELAND, SOUTH	6	8	0 (average)	146	+11	25·7	+ 1·8	33	32	981	− 70	32	− 2
	— CHANNEL ISLANDS	4	3	2 less.	134	0	21·5	+ 2·9	44	43	1251	−157	42	− 5

General Remarks.

Weather has been very cloudy or dull, with frequent heavy rain over all the more western and northern parts of the Kingdom. In the south and south-west the conditions, although showery and unsettled, were at times clear and bright, and the rainfall much less heavy. Thunderstorms have occurred at times in nearly all districts.

Temperature has been slightly above the mean in "England S.," but in nearly all other districts it has been rather below the normal value. The highest of the maxima, which were recorded on somewhat irregular dates, ranged from 74° in the "Channel Islands" and "England S." to 69° in "England N.W." The lowest of the minima were registered in most places on the 14th, and varied from 37° in "Ireland N." and 40° in "Scotland E." to 52° in the "Channel Islands."

Rainfall has been more than the mean in all districts, excepting "Ireland S." and the "Channel Islands.' The excess has been slight in "Scotland N.," "England S." and "S.W." and the "Midland Counties," but considerable in all other districts. In "Scotland E." the fall has been nearly three times as much as the normal, and in "England N.E." more than four times as much.

Bright Sunshine has been very little prevalent generally, but over our more southern and south-western counties and in the Channel Islands a fair amount has been recorded. The percentage of the possible duration varied from 21 in "Scotland E." and 23 in "England N.W." to 37 in "England S.," 40 in "England S.W.," and 43 in the "Channel Islands."

Barometer and Wind.—During the earlier days of the week an area of low pressure travelled from our south-west coasts to the North Sea, the wind at first being moderate from the Eastward over the whole Kingdom, but subsequently veering to the South-Westward and Westward in the south and south-west. As this disturbance passed away some small subsidiary systems appeared over our Islands, generally from the Westward or North-Westward. By the morning of the 15th, however, a very deep depression for the time of year had approached the south-west of Scotland from the south-westward and produced steep gradients for South-Westerly and Westerly winds on all the English and Irish coasts. This system moved away to the northward, and during its progress strong South-Westerly to Westerly winds were experienced over our Islands generally, with gales in many parts of Ireland and England.

3/

* This value has been altered owing to the receipt of further information.

† The corresponding value in last week's report should be "25."

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III.—DATA from which the SUMMARY on page 193 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	59	47	57·3	48·4	52·6	—1·1	74	0	2	0·24	—0·46	*	*
	Stornoway	68	50	60·7	51·0	55·6	+0·9	95	0	6	1·20	+0·40	36·1	34
	Wick	65	42	61·0	48·0	54·1	—1·0	85	0	2	0·70	+0·18	*	*
	Lairg ℌ	69	42	62·5	49·0	55·4	+0·7	94	0	6	0·81	+0·17	*	*
	Glencarron ℌ	68	48	61·3	50·0	55·3	+0·7	93	0	6	3·30†	+1·85	?	?
	Fort Augustus ℌ	72	49	62·2	51·4	56·5	—0·4	102	0	5	1·11†	?	26·6	25
	Fort William ℌ	71	50	63·3	52·8	57·7	+0·8	110	0	5	1·90†	?	22·8	22
1. SCOTLAND, E.	Nairn	71	40	61·7	48·3	54·6	—2·2	88	0	4	0·85	+0·23	*	*
	Aberdeen	64	50	62·0	53·4	57·4	+0·7	108	0	6	0·93	+0·23	30·7	29
	Braemar ℌ	65	47	59·3	49·5	54·1	+0·3	85	0	5	1·56	+0·69	20·8‡	20‡
	Ochtertyre ℌ	69	48	64·4	50·7	57·1	+0·3	106	0	5	1·76	+0·96	*	*
	Leith	65	49	61·4	53·6	57·3	—0·7	107	0	7	2·00	+1·41	20·1‡	19‡
	Marchmont ℌ	65	44	59·7	50·9	55·0	—0·9	91	0	6	3·72	+2·93	18·3	17
2. ENGLAND, N.E.	Alnwick Castle	63	47	60·7	52·0	56·1	—0·5	99	0	7	4·76	+4·08	*	*
	Durham	71	47	64·6	52·6	58·2	+1·0	113	0	6	3·07	+2·43	25·4	24
	Shields	66	48	63·3	52·9	57·8	+0·1	111	0	6	2·77	+2·15	*	*
	Scarborough ℳ	64	49	61·8	53·5	57·4	—1·4	108	0	7	1·50	+0·91	23·7‡	23‡
	York	72	50	65·9	53·6	59·4	—0·6	122	0	6	1·68	+1·13	?	?
	Spurn Head	67	52	64·6	55·4	59·7	+0·1	124	0	5	1·02	?	*	*
3. ENGLAND, E.	Hillington ℳ	73	50	67·8	53·9	60·4	+0·2	129	0	5	1·60	+1·01	29·9	29
	Yarmouth	70	51	66·9	55·7	61·0	+0·2	133	0	5	0·53	+0·04	*	*
	Geldeston	71	49	68·5	54·9	61·3	+0·2	135	0	5	1·00	+0·58	35·3	35
	Cambridge	71	50	69·4	53·9	61·2	—0·9	134	0	5	0·69	+0·17	39·9	39
	Rothamsted	71	47	67·4	53·0	59·8	—1·7	125	0	6	0·95	+0·37	*	*
	Ingatestone												*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	70	50	66·9	52·7	59·4	—1·0	122	0	5	1·27	+0·72	25·4‡	25‡
	Loughborough	72	49	67·4	54·0	60·3	—1·0	128	0	7	0·95	+0·36	30·7‡	30‡
	Cheadle ℳ	67	46	62·6	51·9	56·9	—2·8	104	0	7	1·66	+0·84	*	*
	Churchstoke ℳ	70	44	64·7	51·6	57·8	—1·9	111	0	5	0·96	+0·36	36·2	35
	Hereford ℳ	72	48	68·1	53·4	60·3	—1·1	128	0	5	0·84	+0·25	*	*
	Cirencester	72	42	68·3	52·9	60·1	—0·7	127	0	5	0·60	—0·14	43·4	43
	Oxford	72	50	67·3	55·0	60·8	—0·6	132	0	5	0·49	—0·05	42·3‡	41
5. ENGLAND, S.	London	73	52	69·7	56·4	62·7	—0·1	145	0	6	0·45	—0·05	35·9‡	35‡
	Strathfield Turgiss ℳ	72	48	69·3	55·0	61·7	+0·5	138	0	5	0·46	—0·04	*	*
	Dungeness	69	53	67·0	58·1	62·3	+0·6	142	0	4	1·11	+ 0·64	38·8‡	38‡
	Hastings (St. Leonards)	69	52	66·0	57·6	61·6	+0·1	137	0	6	0·67	+0·14	38·2	37
	Southampton	74	53	69·7	57·0	63·0	+1·3	147	0	5	0·67	+0·08	42·9	42
	Hurst Castle	74	55	67·4	58·6	62·7	+1·4	145	0	5	0·27	—0·24	*	*
	Stowell ℳ	67	50	64·9	55·2	59·8	—0·6	125	0	5	0·80	?	31·9‡	31‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	70	50	64·6	50·9	57·3	+0·4	107	0	5	2·03†	+0·93	*	*
	Glasgow	67	48	62·6	52·5	57·3	+0·2	107	0	6	1·59	+0·74	17·3	16
	Ardrossan	71	51	64·1	53·7	58·6	+1·0	116	0	7	0·87	—0·03	*	*
	Glenlee ℌ	68	42	63·5	50·5	56·6	—0·6	102	0	7	1·65†	+0·65	*	*
	Douglas (Isle of Man)	66	52	63·0	53·9	58·2	+0·5	113	0	5	1·59	+0·79	33·3	32
7. ENGLAND, N.W.	Newton Reigny													
	Stonyhurst	65	47	61·7	53·5	57·4	—2·0	108	0	6	1·67	+0·64	22·0	21
	Blackpool ℳ	68	53	63·6	55·4	59·3	—1·1	121	0	4	0·58	—0·10	24·9	24
	Manchester	69	49	63·2	53·0	57·8	—2·6	111	0	7	1·71	+0·93	*	*
	Liverpool Obsy. (Bidston)	64	50	63·0	55·0	58·8	—1·9	118	0	7	2·62	+1·99	*	*
	Llandudno ℳ													
	Holyhead	66	52	63·4	54·4	58·6	—1·1	116	0	5	0·89	+0·25	*	*
8. ENGLAND, S.W.	Llandovery	71	48	66·4	53·3	59·5	—0·9	123	0	7	1·88	+0·86	*	*
	Pembroke	64	52	61·4	55·3	58·2	—1·2	113	0	7	1·10	+0·45	41·6	41
	Arlington (N. Devon)	66	48	63·0	54·7	58·6	—1·2	116	0	7	1·02	—0·23	*	*
	Cullompton ℳ	69	47	67·2	54·5	60·5	—1·0	130	0	7	0·96	+0·34	37·3	37
	Falmouth	66	52	63·3	55·6	59·4	—1·5	122	0	4	0·56	—0·25	45·3	45
	Plymouth	73	53	68·1	56·8	62·1	+0·4	141	0	6	0·35	—0·29	35·9	36
	Prawle Point	68	48	62·6	54·0	58·0	—1·6	112	0	3	0·59	?	*	*
9 IRELAND, N.	Malin Head	62	50	60·0	53·6	56·6	—0·5	102	0	5	1·23	?	*	*
	Londonderry	73	44	63·7	50·7	56·8	—1·7	104	0	7	2·30	+1·50	*	*
	Mullaghmore	66	48	61·1	52·9	56·8	—2·4	104	0	6	1·69	+0·91	*	*
	Belmullet	64	50	60·1	53·6	56·7	—1·0	103	0	4	1·91	?	*	*
	Markree Castle	68	37	61·9	49·2	55·2	—3·9	92	0	7	2·05	+1·25	29·8	29
	Brookeborough	65	38	61·5	47·6	54·1	—5·2	85	0	6	1·36	?	*	*
	Armagh	67	43	63·0	48·7	55·4	—3·9	94	0	7	1·77	+1·15	24·5	24
	Donaghadee	67	52	63·0	54·4	58·4	+0·5	115	0	7	0·79	+0·11	*	*
	Edgeworthstown	66	42	62·3	48·9	55·2	—4·1	92	0	7	1·03	+0·25	*	*
10. IRELAND, S.	Dublin	65	48	62·9	52·4	57·3	—2·4	107	0	6	0·66	+0·02	36·7	36
	Parsonstown	66	43	62·9	50·3	56·2	—3·0	99	0	6	0·93	+0·15	30·3	29
	Kilkenny	66	42	63·1	50·9	56·6	—2·9	102	0	7	0·96	+0·25	*	*
	Waterford	70	45	66·1	51·3	58·3	—1·7	114	0	7	0·67	—0·13	*	*
	Roche's Point	67	50	63·3	53·9	58·3	—1·9	114	0	3	0·41	—0·38	*	*
	Valencia	68	48	62·9	54·4	58·4	—0·7	115	0	5	0·93	—0·09	31·0	30
	Killarney	66	43	62·0	51·6	56·5	—3·0	102	0	6	1·14	?	*	*
	Foynes	65	46	62·0	52·6	57·0	—1·7	105	0	5	0·72	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	65	52	63·6	54·6	58·8	—2·0	118	0	5	0·42	—0·12	*	*
	Jersey	74	57	66·7	59·0	62·6	+0·7	144	0	3	0·22	—0·28	43·8	43

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

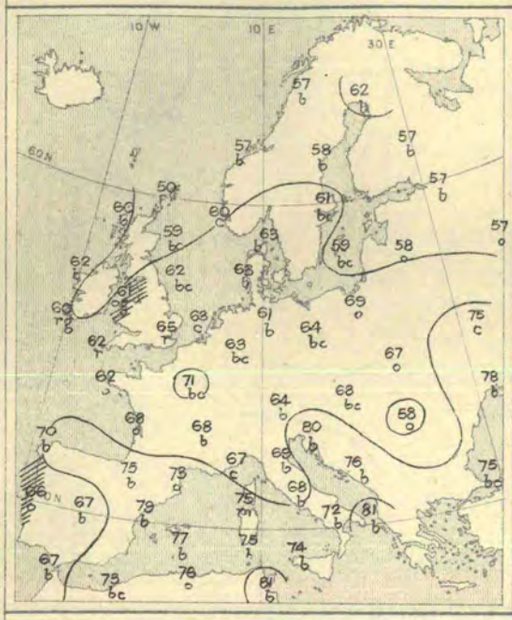
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

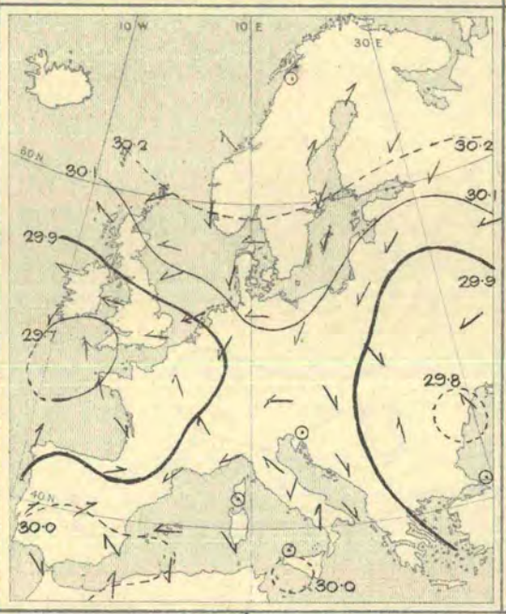
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 10th August.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine over the greater part of Europe, but dull and rainy over the southern half of the United Kingdom, with a thunderstorm at Dungeness. Cloudy weather also reported at several of the French, German, and Austrian stations. Thunderstorms, with heavy rain, occurring during day in many parts of England, France, and Germany, the largest amounts being 1·7 ins. at Liverpool, 1·0 in. at Dungeness and Cape Gris Nez, and 0·9 in. at York.

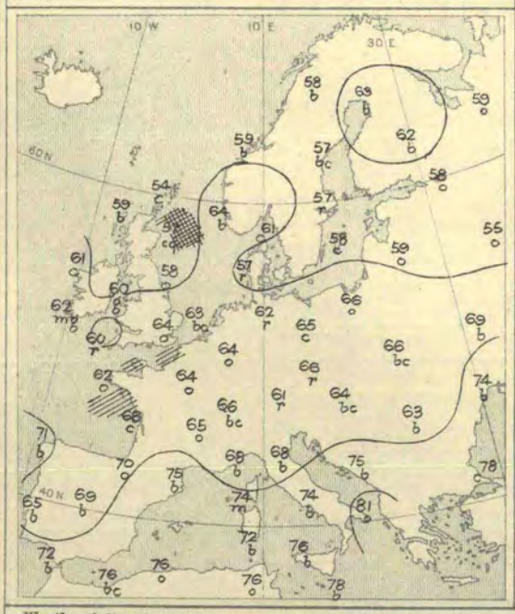
Temperature highest, 81° at Brindisi and Tunis, 80° at Trieste and Bilbao, 79° at Barcelona, and 78° at Odessa; above 70° in many parts of southern and eastern Europe, and as high as 65° at York and in London. Lowest, 50° at Sumburgh Head, 55° at Helsingfors, and 57° at Bodö, Christiansund, Kuopio, Hangö, St. Petersburg, and Moscow. Rising during day to between 70° and 75° in some of the northern and eastern parts of Great Britain, and to between 80° and 90° in France. Exceeding 90° at some of the Italian and Algerian stations, the highest readings of all being 118° at Biskra, 106° at Laghouat, and 104° at Aumale.

Wind light to fresh from the Eastward over the greater part of the United Kingdom, but South-Easterly or Southerly at most of the Channel stations, and also in the north of France. Light or moderate from the South-Westward in Spain and the west of France; North-Easterly over Russia, the Baltic, Denmark, and the south of Scandinavia; Northerly in Germany, Austria, and Italy; variable in Algeria. Subsequently veering to the South-Westward in the south of England, little change occurring elsewhere.

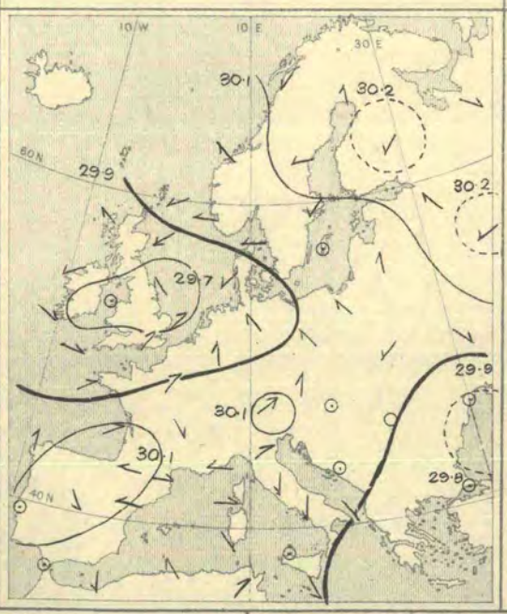
Barometer highest, 30·2 ins. and upwards, in an anti-cyclone lying over Scandinavia and northern Russia, 30·0 ins. and upwards over the south of Spain. Lowest, 29·7 ins. and less, in a depression lying over the extreme south-west coasts of our Islands, 29·8 ins. and less, in a shallow system lying over the south of Russia. Depression in south-west subsequently moving northward, and barometer rising in France and the south of our Islands. Shallow system over Russia spreading south-westward over Turkey.

Monday, 11th August.

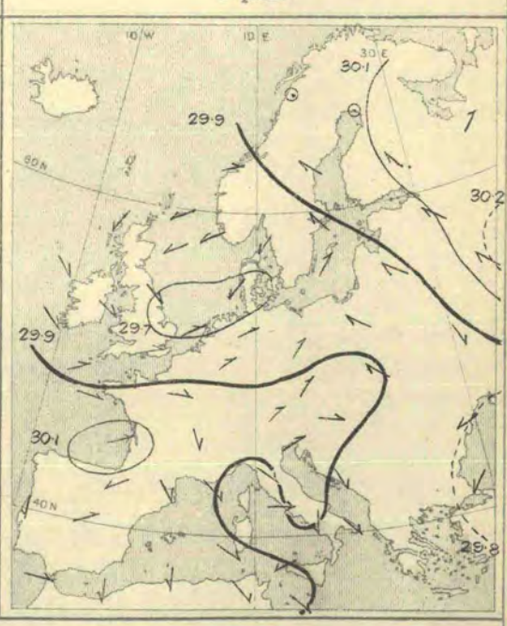
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and unsettled over the greater part of our Islands, France, Germany, Denmark, and the Baltic, with rain or passing showers in many places. Fine in most other countries, but dull at some of the Russian stations. Showers falling during day over nearly the whole of western and central Europe, with thunderstorms in some parts of Great Britain, and also in Austria and south Germany.

Temperature, 81° at Brindisi, 80° at Tunis, 78° at Constantinople and Malta, and 77° at Aumale; above 70° in most parts of southern and eastern Europe. Lowest, 54° at Sumburgh Head, 55° at Moscow, and 57° at Ulcaborg, Hernösand, Stockholm, Helsingfors, Fanö, Aberdeen, Leith, and Mullaghmore. Daily maxima very little above 70° in any part of the United Kingdom, and below 65° at several of our western and northern stations, but thermometer exceeding 80° over the central and southern parts of France, and exceeding 90° in many parts of Italy, Spain, and Algeria. Highest readings of all, 108° at Laghouat, 102° at Aumale, and 97° at Madrid.

Wind South-Westerly over England, the south of Ireland, and the north of France; strong in force over the eastern part of the Channel. Southerly or South-Easterly in Germany; Easterly or North-Easterly over Russia, Scandinavia, Denmark, and the north of our Islands, as well as in the south of France; North-Westerly in Italy; variable over Austria, Spain, and Algeria. Subsequently veering to the North-Westward on our western coasts; no important change elsewhere.

Barometer highest, 30·2 ins. and upwards, over Finland and central Russia, 30·1 ins. and upwards over Spain and the south-west of France, and also over south Germany. Lowest, 29·7 ins. and less, in a large but somewhat shallow depression covering the greater part of Ireland and England; 29·8 ins. and less in another disturbance lying over the Black Sea. Depression over our Islands subsequently moving slowly eastwards, and barometer rising on our western and southern coasts.

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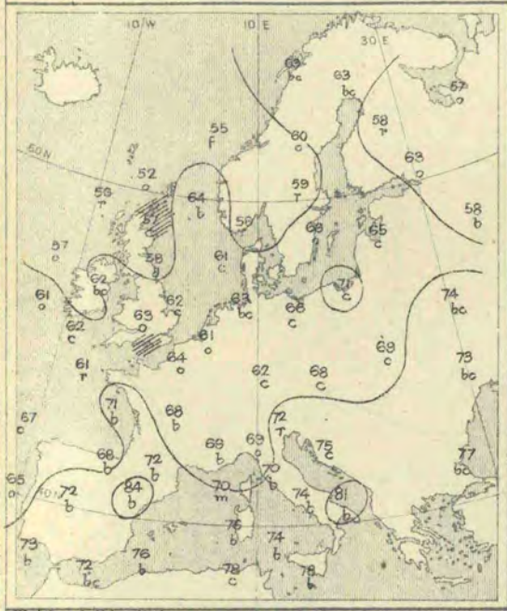
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 12th August.

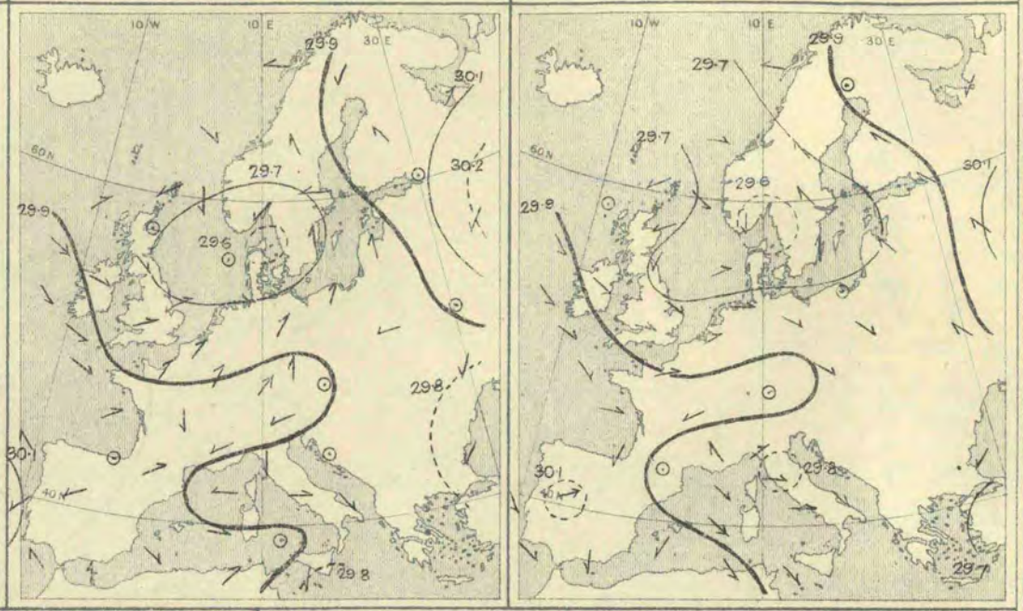
Temperature and Weather. — 8 a.m.



Weather dull in all the more northern, eastern, and central parts of the United Kingdom, as well as over Finland and the south of Scandinavia, with rain in many places. Fine in nearly all other parts of Europe, but fog reported at Christiansund and the Helder. Showers falling during day over Great Britain, France, and the Netherlands, and heavy rain setting in at night over the north of England and the south-east of Scotland. Thunderstorms occurring at many of the German, French, and Algerian stations.

Temperature highest, 84° at Barcelona, 81° at Brindisi, 79° at Toulon, and 78° at La Calle, Tunis, and Malta; above 70° in nearly all parts of southern and eastern Europe. Lowest, 52° at Sumburgh Head, 55° at Christiansund, 56° at Stornoway and Nairn, and 57° at Archangel, Aberdeen, and Leith; below 60° over the greater part of our western and northern districts. Daily maxima below 70° in all parts of the United Kingdom, but thermometer exceeding 75° in France, and exceeding 80° over southern Europe generally. Highest readings of all, 106° at Biskra and Laghouat, 102° at Aumale, and 100° at Cape Béarn.

Barometer and Wind. — 8 a.m. and 6 p.m.

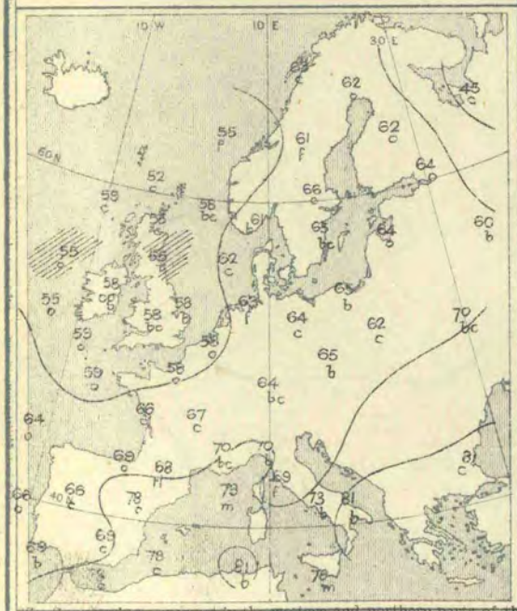


Wind moderate from the North-Westward in the west and south-west of our Islands; light from the Westward over the eastern and central parts of England; moderate or fresh from the South-Westward over the Netherlands, Germany, and the north of France; Southerly over the Baltic, and South-Easterly in Finland and Sweden. Variable over southern Europe, and also in Germany; Southerly in Algeria, Easterly in Scotland. No important change taking place during day.

Barometer highest, 30·2 ins. and upwards, over central Russia, 30·1 ins. and upwards in the south of Portugal. Lowest, 29·6 ins. and less, in a small depression over the Kattegat; 29·7 ins. and less in another system off the north of Scotland; 29·8 ins. and less in two further disturbances lying respectively over the Black Sea and in the neighbourhood of Malta. Very little change occurring during day.

Wednesday, 13th August.

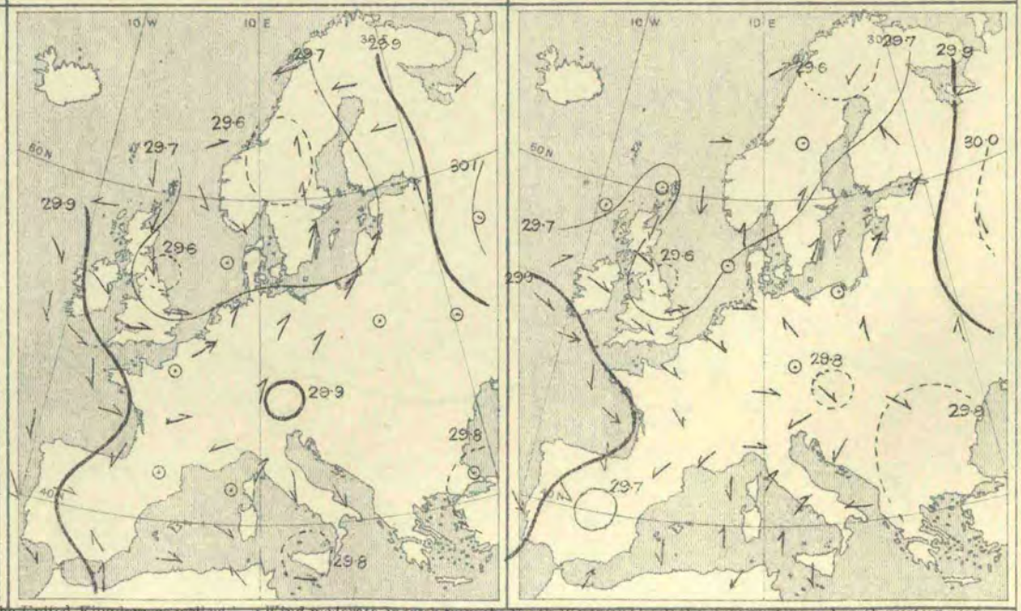
Temperature and Weather. — 8 a.m.



Weather cloudy or overcast in the western and northern parts of the United Kingdom, as well as in Sweden, Finland, western Germany, Spain, and the central and southern parts of France; heavy rain falling in the north-east of Great Britain, and passing showers on our western coasts; a thunderstorm reported at Perpignan. Fine over our midland and south-eastern counties, as well as over Russia and the greater part of southern and eastern Europe. Rain falling during day in nearly all the more western countries—heavily in the north of England; thunderstorm occurring over France during evening or night and lightning in the north-east of England.

Temperature highest, 81° at Brindisi, Constantinople, and La Calle, and 78° at Barcelona, Malta, Oran, and Algiers; above 70° in most parts of Algeria, Italy, and eastern Europe, and above 65° at some of the Baltic stations. Lowest, 45° at Archangel, 52° at Sumburgh Head, 54° at Pembroke, and 55° at several of our own western and northern stations. Daily maxima below 79° in all parts of the United Kingdom, but thermometer rising to 86° or more over the central and southern parts of France, reaching 96° at some of the Italian stations, and exceeding 100° in central Algeria.

Barometer and Wind. — 8 a.m. and 6 p.m.



Wind moderate or fresh from the North-Westward in all the more western and south-western parts of the United Kingdom, light from the same quarter or from the Northward over the Channel, the Bay of Biscay, and the greater part of the Iberian Peninsula; South-Westerly over the Baltic, Germany, and northern Italy; Easterly over Finland and Lapland; North-Easterly in the north and east of Scotland. Variable in Norway, Denmark, central France, and Algeria. Subsequently backing to the Westward or South-Westward in the extreme west of Ireland.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying over central Russia, 30·0 ins. and upwards in another system lying to the south-westward of our Islands and the westward of Portugal. Lowest, 29·6 ins. and less, in a large shallow depression over Sweden, and also in a smaller system lying off the north-east of England; 29·8 ins. and less in three depressions lying over the Mediterranean and eastern Europe. Depression off north-east of England dispersing later, but new disturbance beginning to approach our northern coasts.

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II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 14th August.

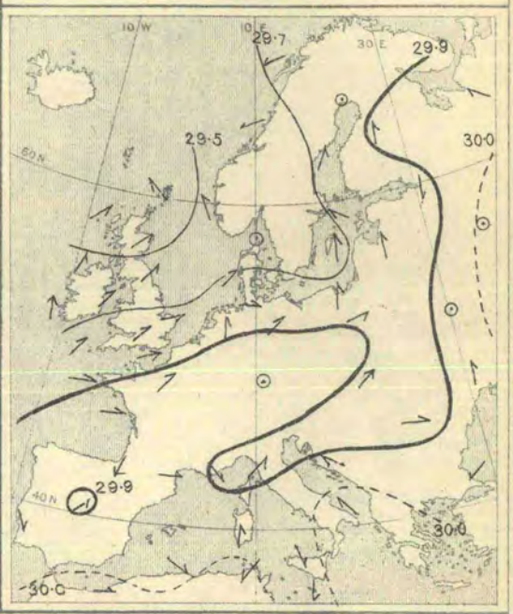
Temperature and Weather.

8 a.m.

Barometer and Wind.

8 a.m.

6 p.m.



Weather fine over the greater part of Europe, but cloudy and showery in the west of our Islands, as well as at several of the French and German stations. Fog reported at Riga and Copenhagen, and also at Cagliari. Showers falling during day in many parts of the United Kingdom, and heavy rain setting in over Ireland at night, the largest amounts reported next morning being 1·4 ins. at Belmullet and 1·1 ins. at Mullaghmore. Thunderstorms occurring in evening at Cracow and Warsaw.

Temperature highest, 81° at Brindisi and La Calle, 80° at Tunis, 79° at Lesina, and 78° at Cagliari and Algiers; above 70° at all the Mediterranean stations, and above 65° in Sweden. Lowest, 45° at Archangel, 53° at Stornoway, and 54° at Sumburgh Head, Shields, Belmullet, and Paris; below 60° in most parts of the United Kingdom and France. Highest daily maxima over our Islands, 69° in London and at Cambridge, and 68° at Dungeness, but thermometer rising above 70° in Germany and France, and above 90° in many parts of southern Europe and Algeria. Highest readings of all, 104° at Biskra and 102° at Laghouat.

Wind light or moderate from the North-Westward in Ireland, and from the Westward or South-Westward over England, the Netherlands, western Germany, and the north of France. Light from the South-Eastward or Southward in the north of Scotland, and also over Scandinavia, Russia, and eastern Germany. North-Easterly or Northerly in Italy, Spain, and the south of France: variable in Algeria. Subsequently backing to the South-Westward or Southward in Ireland, and increasing to a moderate gale at night.

Barometer highest, 30·1 ins. and upwards, over the Bay of Biscay, 30·0 ins. and upwards in Russia. Lowest, 29·6 ins. and less, in a shallow and irregularly-formed depression lying over Scotland, 29·8 ins. and less in a larger but still shallower disturbance lying over the Mediterranean. Depression over Scotland subsequently spreading eastwards and southwards, new and much deeper system approaching our western coasts at night, and barometer falling quickly at the Irish stations. Small and very shallow disturbance appearing over central Spain.

Friday, 15th August.

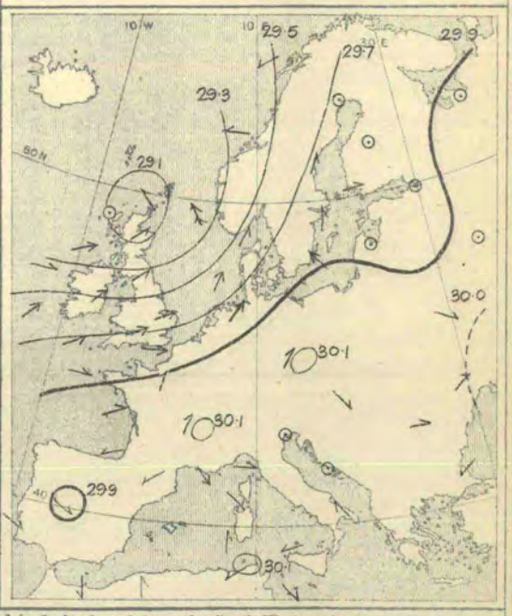
Temperature and Weather.

8 a.m.

Barometer and Wind.

8 a.m.

6 p.m.



Weather cloudy or overcast in nearly all parts of the north-western, northern and central Europe, with rain in the north of our Islands, and passing showers in the south. Fine in all the more southern and eastern countries, and also in the south-west of the United Kingdom. Heavy rain falling during day in Scandinavia and the north of Scotland, and thunderstorms occurring at Aberdeen and Valentia Island. Lightning seen at Liverpool at night.

Temperature highest, 83° at La Calle and Tunis, 82° at Aumale, 81° at Brindisi, and 80° at Lesina, above 70° in west of the southern and eastern countries, and reaching 63° at Helsingfors and Moscow. Lowest, 50° at Malin Head, 53° at Stornoway and Nairn, and 54° at Aberdeen, Belmullet, and Mullaghmore; below 60° in most parts of the United Kingdom. Thermometer subsequently rising to 70° or a little more in the east and south-east of England, to 80° or more over southern Europe generally, and to 90° or more in Algeria and isolated parts of Spain and Italy. Highest readings of all, 106° at Briskra and 99° at Aumale and Laghouat.

Wind strong from the Westward in Ireland, and from the South-Westward over England, the Netherlands, Denmark, the Baltic and the north of France, with a gale in the Channel. Strong from the Southward in the south of Scandinavia; light from the Eastward or South-Eastward in the north and east of Scotland. Light from East also over Russia and the Adriatic; moderate from the North-Eastward in Spain and the south of France; Southerly at most of the Algerian stations. Subsequently increasing to a gale from the Southward in the south of Norway.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone lying over Spain and the southern parts of France and Germany, and also in another system lying over the south of Russia. Lowest, 29·0 ins. and less, in a deep depression lying over the south-west of Scotland; 29·6 ins. and less, in a shallower but well-marked system lying over the southern part of the Gulf of Bothnia. Former disturbance subsequently travelling in a north-north-easterly direction across Scotland; latter system partially dispersing.

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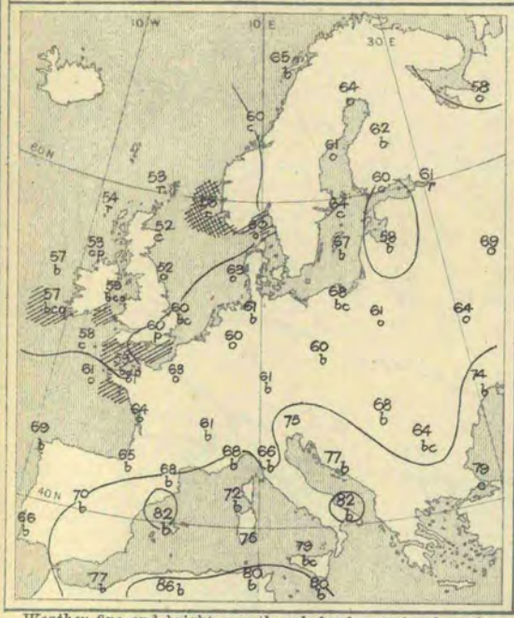
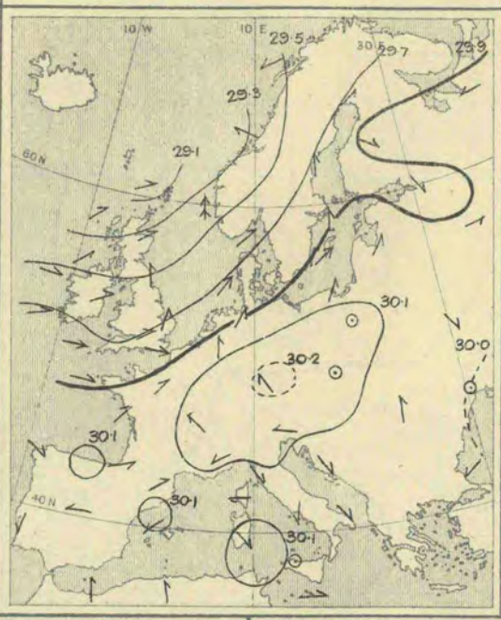
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 16th August.

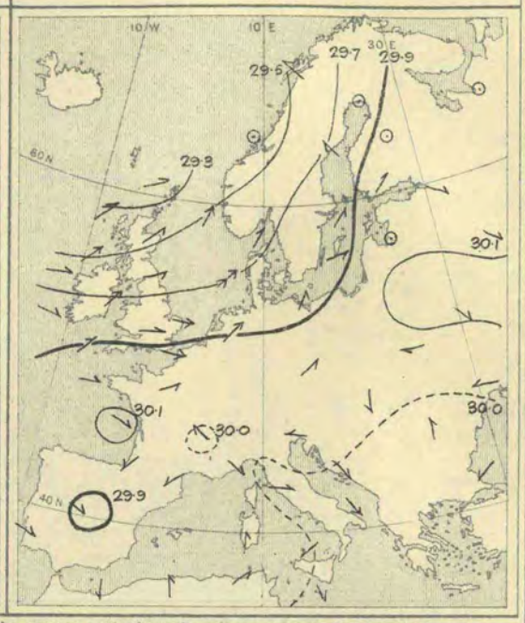
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright over the whole of central and southern Europe, but varying greatly in other localities. Showery in many parts of the United Kingdom and raining in the extreme north of Scotland, as well as at St. Petersburg and Nicolaieff. Considerable improvement taking place over the south of England later in day, but thunderstorms occurring at Spurn Head and Liverpool. Lightning seen at some of the French stations in evening.

Temperature highest, 85° at Aumale, 82° at Brindisi, Palma, and La Calle, and 80° at Tunis and Malta; above 70° in nearly all parts of southern and eastern Europe. Lowest, 52° at Aberdeen, Shields, Liverpool, and Parsonstown, and 53° at Sumburgh Head, Loughborough, Malin Head, and Donaghadee; below 60° in all but the south-eastern parts of the United Kingdom. Daily maxima below 70° over the whole of our Islands, but thermometer exceeding 80° in most parts of central and southern Europe, and exceeding 90° at some of the Spanish, Italian, and Algerian stations. Highest readings of all, 105° at Biskra, 102° at Cape Béarn, and 100° at Aumale and Laghouat.

Wind South-Westerly over the greater part of north-western Europe, but South-Easterly or Easterly in the west of Norway; strong to a gale in force over the English Channel, and also in the south of Scandinavia. Light or moderate from the Southward in Germany and from the Northward or North-Westward in Italy; variable over Austria, Spain, Algeria, and the south of France. Subsequently increasing to a gale from the South-Westward on some parts of the Danish coasts; little change occurring elsewhere.

Barometer highest, 30·1 ins. to 30·2 ins. or rather more, in an anti-cyclone lying over Austria, south Germany, Switzerland, and the south-east of France, and also in three smaller systems lying over Spain and the western parts of the Mediterranean. Lowest, 29·1 ins. and less, in a depression lying off the north of Scotland; shallow secondary disturbances passing eastwards across Ireland and England. Depression in north subsequently travelling away from our area, but shallow disturbance appearing over central Spain.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➙ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the beginning of this week two large high-pressure systems were prevalent—one, in which readings exceeded 30·1 ins., being found over northern Europe, the other, of rather less intensity, over the Mediterranean and southern Europe. These were united by a broad "col," which extended from the Baltic, across Germany, Austria, northern Italy, and Switzerland, to the south of France. Both of the high-pressure systems then gave way—the northern one permanently, the southern temporarily. Two depressions then moved eastwards over north-western Europe, the second being deep and very well formed; both caused rain, more or less, in all the districts embraced within their area, and the latter produced strong South-Westerly to North-Westerly winds, and gales over the United Kingdom and North Sea. These gales were subsiding gradually, and the weather was improving, at the close of the period.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
Week ending August 9th	Fort William	71	50	64·1	53·4	58·4	+1·3	115	0	3	1·70	?	—	—

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 34.] *Third Series.* WEEK ENDING SATURDAY, 23RD AUGUST, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 200.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
	0. SCOTLAND, NORTH -	65	39	57·4	46·9	51·9	3 below.	69	− 18	0	0	1376	+ 66	438	− 72
Principal Wheat-producing Districts.	**1.** SCOTLAND, EAST -	71	38	61·8	46·9	53·9	2 below.	83	− 24	0	0	1648	− 71	485	− 58
	2. ENGLAND, N.E. - -	69	43	63·3	49·7	56·1	2 below.	99	− 17	0	0	1821	− 7	389	− 93
	3. ENGLAND, EAST -	71	45	66·2	50·8	58·0	3 below,	112	− 16	0	0	2069	− 57	468	− 39
	4. MIDLAND COUNTIES	72	44	65·2	50·2	57·3	3 below.	107	− 17	0	0	2043	− 80	478	− 26
	5. ENGLAND, SOUTH -	75	46	66·5	53·9	59·8	2 below.	125	− 10	0	0	2226	− 59	305	− 68
Principal Grazing &c., Districts.	**6.** SCOTLAND, WEST -	67	38	61·2	49·1	54·8	2 below.	90	−18	0	0	1773	− 27	325	− 73
	7. ENGLAND, N.W. -	68	45	62·1	51·6	56·5	3 below.	102	−15	0	0	1914*	+ 2	302	− 81
	8. ENGLAND, S.W. -	72	44	64·3	52·7	58·1	2 below.	113	−12	0	0	2096	− 71	245	+ 12
	9. IRELAND, NORTH -	66	38	60·6	49·1	54·5	4 below.	88	−22	0	0	1839	− 42	294	− 56
	10. IRELAND, SOUTH -	68	40	63·0	50·2	56·2	3 below.	99	−19	0	0	2103	− 24	224	− 15
	— CHANNEL ISLANDS -	67	52	64·4	55·2	59·5	2 below.	123	−11	0	0	2332	+ 18	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 200.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
	0. SCOTLAND, NORTH -	6	12	6 more.	166	+23	31·9	+ 0·8	24	24	787	−136	25	− 4
Principal Wheat-producing Districts.	**1.** SCOTLAND, EAST -	5	5	2 less.	142	+20	19·8	+ 0·1	31	30	933	−140	29	− 4
	2. ENGLAND, N.E. - -	4	7	1 more.	120	+ 2	16·2	− 0·7	33	33	883	−105	28	− 3
	3. ENGLAND, EAST -	4	5	0 (average)	125	+ 5	16·4	+ 0·8	36	36	1114	− 85	36	− 2
	4. MIDLAND COUNTIES-	4	6	0 (average)	119	+ 1	15·2*	− 2·8	30	30	973	− 97	31	− 3
	5. ENGLAND, SOUTH -	5	8	3 more.	119	+ 6	18·7	+ 2·1	37	38	1046	−100	34	− 3
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	5	12	3 more.	144	+11	31·7	− 0·7	39	38	997	− 36	32	− 1
	7. ENGLAND, N.W. - -	5	14	6 more.	136	+13	21·1	+ 0·6	32	32	934	−105	30	− 3
	8. ENGLAND, S.W. - -	5	9	0 (average)	140	+11	24·8	− 1·1	45	46	1084	−145	35	− 4
	9. IRELAND, NORTH -	6	9	2 more.	157	+ 9	21·1	− 1·0	30	30	956	− 5	30	0
	10. IRELAND, SOUTH -	5	9	1 more.	151	+13	26·6	+ 1·9	40	40	1021	− 70	33	− 2
	— CHANNEL ISLANDS -	5	7	1 more.	139	+ 1	22·2	+ 3·1	50	51	1301	−165	42	− 5

General Remarks.

Weather has continued in a very changeable condition generally; brief intervals of sunshine have alternated with overcast skies and heavy falls of rain, and thunder and lightning occurred at times in most parts of Great Britain.

Temperature has been below the mean in all districts, the deficit having ranged from 2° to 4°. The highest of the maxima were registered either on the 17th or 18th, when they varied from 65° in "Ireland N." to 75° in "England S." The lowest of the minima, which were recorded on rather irregular dates, ranged from 38° in "Scotland E." and "W." and "Ireland N." to 46° in "England S." and to 52° in the "Channel Islands."

Rainfall has been a little less than the mean in "Scotland E.," and equal to the mean in "England E." and "S.W." and the "Midland Counties;" in all other districts, however, there has been an excess.

Bright Sunshine has been more prevalent than it was last week, the percentage of the possible duration having ranged from 24 in "Scotland N." to 46 in "England S.W." and to 51 in the "Channel Islands."

Barometer and Wind.—During this period the distribution of barometrical pressure has changed frequently and considerably. Soon after the commencement of the week a small depression reached our extreme south-eastern coasts from France, and caused Easterly or North-Easterly winds in nearly all parts of England. This system, however, soon filled up, and during the remainder of the week depressions moved north-eastwards over or to the northward of Scotland and their subsidiary systems in a similar direction over the more southern parts of the Kingdom. The wind was consequently Westerly or South-Westerly very generally, and although moderate on most days, it blew strongly at times, and on the 23rd increased to a fresh to strong gale in the Channel.

* This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 199 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	59	43	56·6	46·9	51·5	—2·4	67	0	6	1·20	+0·45	*	*
	Stornoway	58	42	56·7	46·7	51·4	—3·3	66	0	7	2·25	+1·42	25·4	25
	Wick	59	41	56·7	46·7	51·4	—3·4	66	0	7	1·18	+0·65	*	*
	Lairg ℌ	58	40	56·0	46·0	50·7	—3·7	61	0	7	0·44	—0·21	*	*
	Glencarron ℌ	57	41	55·8	45·8	50·5	—3·8	60	0	7	1·61†	+0·14	?	?
	Fort Augustus ℌ	65	39	60·2	47·2	53·3	—2·7	79	0	5	0·63†	?	22·3	22
	Fort William ℌ	64	44	59·9	49·1	54·2	—1·9	85	0	6	1·40†	?	25·4	25
1. SCOTLAND, E.	Nairn	63	43	59·3	47·6	53·1	—3·1	78	0	6	0·60	—0·02	*	*
	Aberdeen	64	43	61·6	47·4	54·1	—1·8	85	0	7	0·66	—0·06	26·2	25
	Braemar ℌ	61	42	57·7	46·1	51·6	—1·5	67	0	6	0·45	—0·45	27·8‡	27‡
	Ochtertyre ℌ	71	38	66·6	45·6	55·5	—0·4	95	0	4	0·21	—0·59	*	*
	Leith ℌ	67	45	63·7	48·6	55·7	—1·7	96	0	4	0·63	+0·04	33·0‡	32‡
	Marchmont ℌ	64	41	61·6	45·9	53·3	—2·1	79	0	5	0·70	—0·09	36·5	36
2. ENGLAND, N.E.	Alnwick Castle	62	43	60·3	47·9	53·7	—2·6	82	0	4	0·78	+0·09	*	*
	Durham	69	45	64·3	48·1	55·7	—0·9	96	0	4	0·71	+0·08	35·6	35
	Shields	66	45	63·1	49·0	55·6	—1·3	95	0	4	0·81	+0·19	*	*
	Scarborough ℳ	67	47	62·8	51·0	56·6	—1·7	102	0	4	0·81	+0·21	39·2‡	39‡
	York	68	44	64·9	49·0	56·5	—2·4	102	0	5	0·75	+0·20	25·5	25
	Spurn Head	69	50	64·1	53·3	58·4	—0·5	115	0	4	0·15	?	*	*
3. ENGLAND, E.	Hillington ℳ	69	46	66·5	48·5	57·0	—2·7	105	0	3	0·39	—0·20	38·9	39
	Yarmouth	70	50	64·7	53·3	58·7	—1·9	117	0	5	0·44	—0·05	*	*
	Geldeston	71	47	65·9	50·7	57·8	—2·9	111	0	5	0·65	+0·24	33·1	33
	Cambridge	71	45	68·3	51·0	59·1	—2·3	120	0	3	0·24	—0·27	34·8	35
	Rothamsted	70	46	65·4	50·4	57·5	—3·4	109	0	4	0·77	+0·18	*	*
	Ingatestone												*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	70	46	66·6	49·1	57·3	—2·5	107	0	4	0·32	—0·23	28·4‡	28‡
	Loughborough	72	44	67·7	49·9	58·3	—2·1	114	0	3	0·45	—0·15	30·7‡	31‡
	Cheadle ℳ	68	45	62·5	48·6	55·1	—4·3	92	0	3	0·92	+0·09	*	*
	Churchstoke ℳ	67	45	? 63·9	47·9	? 55·4	?—4·0	? 94	0	5	0·91	+0·29	31·7	32
	Hereford ℳ	71	47	65·7	52·4	58·7	—1·9	117	0	3	0·24	—0·36	*	*
	Cirencester	66	45	64·4	51·3	57·5	—2·9	109	0	5	0·33	—0·42	20·8	21
	Oxford	71	49	65·6	52·3	58·5	—2·3	116	0	5	1·14	+0·62	37·4	38
5. ENGLAND, S.	London	72	49	67·4	53·7	60·1	—2·1	127	0	4	0·74	+0·24	33·8‡	34‡
	Strathfield Turgiss ℳ	73	46	68·2	52·1	59·8	—1·4	125	0	3	0·87	+0·37	*	*
	Dungeness	69	49	66·0	55·4	60·4	—0·9	129	0	6	0·87	+0·38	36·5‡	37‡
	Hastings (St. Leonards)	67	52	65·3	55·0	59·8	—1·6	125	0	6	0·89	+0·32	35·3	36
	Southampton	75	51	68·7	53·6	60·7	—0·9	131	0	4	0·82	+0·22	44·4	45
	Hurst Castle	70	54	65·6	55·9	60·5	—0·7	130	0	6	1·16	+0·61	*	*
	Stowell ℳ	69	48	64·0	51·4	57·3	—2·9	107	0	5	0·26	?	36·6‡	37‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	63	43	59·7	47·2	53·1	—3·6	78	0	7	1·55†	+0·45	*	*
	Glasgow	63	47	60·7	48·9	54·5	—1·9	88	0	5	1·30	+0·43	35·9	35
	Ardrossan	63	49	61·4	52·0	56·4	—0·7	101	0	4	0·87	—0·05	*	*
	Glenlee ℌ	67	38	62·5	47·8	54·5	—1·5	88	0	5	0·68†	—0·35	*	*
	Douglas (Isle of Man)	64	45	61·5	50·0	55·4	—2·3	94	0	4	1·49	+0·65	41·8	41
7. ENGLAND, N.W.	Newton Reigny													
	Stonyhurst	65	45	61·1	49·6	55·0	—4·1	91	0	6	2·16	+1·11	29·2	29
	Blackpool ℳ	66	?	63·2	?	?	?	?	0	5	2·30	+1·61	36·6	36
	Manchester	68	47	62·6	49·7	55·8	—4·0	97	0	4	1·08	+0·30	*	*
	Liverpool Obsy. (Bidston)	66	50	62·6	52·7	57·4	—2·8	108	0	3	0·75	+0·10	*	*
	Llandudno ℳ	66	47	62·1	52·4	57·0	—3·2	105	0	5	1·23	+0·63	? 30·6	? 31
	Holyhead	65	50	62·0	53·4	57·4	—2·1	108	0	4	0·70	+0·03	*	*
8. ENGLAND, S.W.	Llandovery	72	46	65·0	49·7	56·9	—2·6	104	0	5	1·09	—0·01	*	*
	Pembroke	63	52	60·9	54·9	57·7	—1·0	110	0	2	0·19	—0·49	49·2	50
	Arlington (N. Devon)	66	46	62·7	50·0	56·0	—3·2	98	0	7	1·12	—0·14	*	*
	Cullompton ℳ	70	44	67·2	51·2	58·7	—2·1	117	0	5	0·56	—0·09	44·3	45
	Falmouth	65	51	62·9	54·6	58·5	—2·2	116	0	6	2·10	+1·25	40·4	41
	Plymouth	72	51	68·6	55·0	61·2	—0·5	134	0	4	0·63	—0·02	46·8	48
	Prawle Point	65	51	63·1	53·7	58·1	—1·1	113	0	5	0·38	?	*	*
9 IRELAND, N.	Malin Head	62	49	58·7	52·1	55·2	—1·5	92	0	6	0·51	?	*	*
	Londonderry	63	47	61·1	49·2	54·8	—2·7	90	0	7	1·16	+0·34	*	*
	Mullaghmore	62	47	60·1	51·7	55·7	—3·0	96	0	5	1·46	+0·68	*	*
	Belmullet	61	44	59·1	51·1	54·9	—2·7	90	0	6	0·97	?	*	*
	Markree Castle	62	39	60·0	46·4	52·8	—5·6	73	0	6	1·16	+0·35	37·0	37
	Brookeborough	63	38	60·5	45·7	52·7	—5·8	75	0	5	0·75	?	*	*
	Armagh	65	42	62·3	46·8	54·1	—4·4	85	0	6	0·81	+0·19	22·1	22
	Donaghadee	66	49	61·7	52·4	56·8	—0·7	104	0	6	0·36	—0·33	*	*
	Edgeworthstown	64	44	61·7	46·3	53·5	—5·0	81	0	6	1·19	+0·41	*	*
10. IRELAND, S.	Dublin	67	49	62·8	51·1	56·6	—2·4	102	0	5	1·04	+0·41	40·5	41
	Parsonstown	65	47	62·7	50·0	56·0	—2·8	98	0	5	1·13	+0·33	28·9	29
	Kilkenny	65	45	63·0	48·3	55·2	—3·4	92	0	5	0·67	—0·08	*	*
	Waterford	68	44	65·6	49·0	56·8	—2·6	104	0	4	0·50	—0·34	*	*
	Roche's Point	65	50	62·7	51·7	56·9	—3·0	104	0	4	0·56	—0·28	*	*
	Valencia	65	49	62·7	52·1	57·1	—1·8	106	0	5	0·72	—0·34	49·9	50
	Killarney	64	40	62·6	47·8	54·8	—4·6	90	0	? 5	? 1·11	?	*	*
	Foynes	65	48	62·0	51·4	56·4	—2·1	101	0	6	1·61	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	53	63·1	54·4	58·5	—2·4	115	0	6	0·55	—0·01	*	*
	Jersey	67	52	65·7	55·9	60·5	—1·2	130	0	4	0·79	+0·27	50·0	51

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

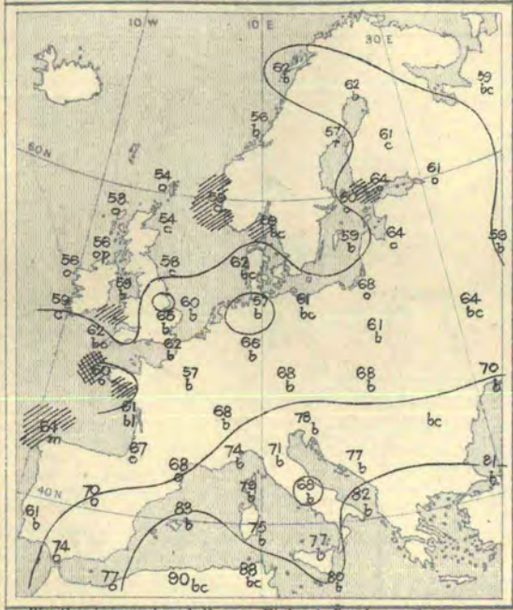
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 17th August.

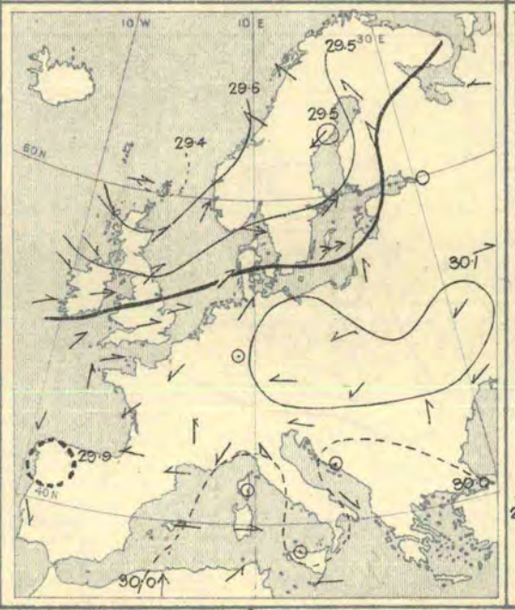
Temperature and Weather. 8 a.m.



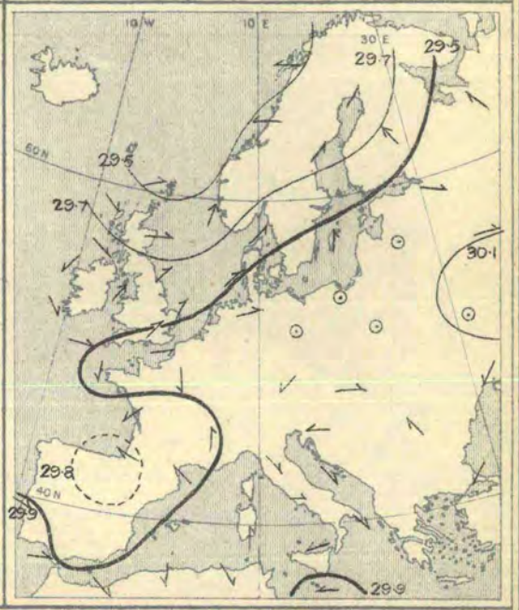
Weather in morning dull over Finland, Sweden, and the extreme north and north-west of our Islands, as well as in Spain, western Algeria, and the south-west of France; rain falling at Hernösand, passing showers in the north of Ireland, and thunderstorm reported at Rochefort. Fine and bright in nearly all other parts of Europe. Rain later at several of the Irish, Scotch, and Scandinavian stations; lightning seen in London and at Lyons in evening. Thunderstorms occurring at Dungeness and in the north-east of France at night, and heavy rain falling over Finland.

Temperature very high in Algeria and the central and southern parts of the Mediterranean; Aumale 90°, La Calle 88°, Palma 83°, and Brindisi and Tunis 82°; above 70° in nearly all parts of southern and eastern Europe. Lowest, 53° at Stornoway, 54° at Sumburgh Head and Aberdeen, 55° at Wick and Parsonstown, and below 60° in many other parts of the United Kingdom. Subsequently rising to 70° or a little above in our midland and south-eastern counties, to 80° or more in some parts of Germany, to 90° or more over the southern parts of France and in Italy, and to upwards of 100° in several parts of Algeria.

Barometer and Wind. 8 a.m.



6 p.m.

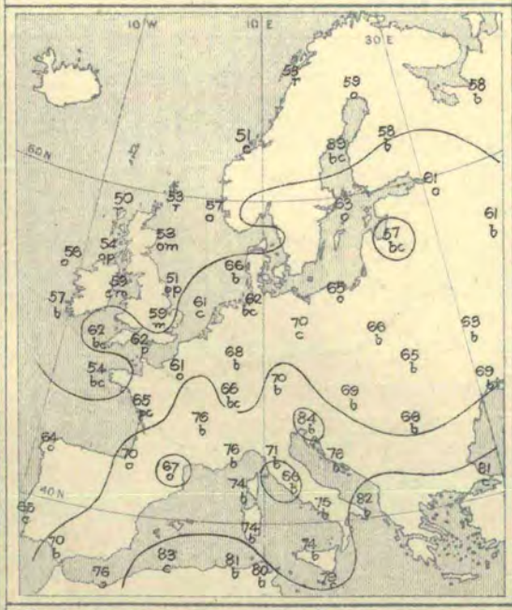


Wind South-Westerly over the greater part of the United Kingdom, and also over the Netherlands, Denmark, the Baltic, and the south of Scandinavia; Southerly in Finland, South-Easterly over the northern parts of Sweden and Norway; strong in force in the Baltic, and blowing a gale at Wisby. Moderate from the North-Westward in the extreme north and north-west of our Islands. Another cyclonic circulation (of light winds) reported over Spain and the neighbouring countries; variable breezes over Italy and central Europe. No important change occurring during day, beyond a veering of the wind over Sweden.

Barometer highest, 30·1 ins. and upwards, in an anti-cyclone covering a large portion of Germany, Austria, and the south of Russia. Lowest, 29·4 ins. and less, in a low-pressure system lying to the northward of the Shetlands, 29·5 ins. and less in a small disturbance over the southern part of the Gulf of Bothnia. Shallow system, with readings apparently below 29·9 ins., lying over the north of Spain in morning. Rising in Scotland and Ireland later, but falling in the south-west of France, as the Spanish depression moved north-eastwards.

Monday, 18th August.

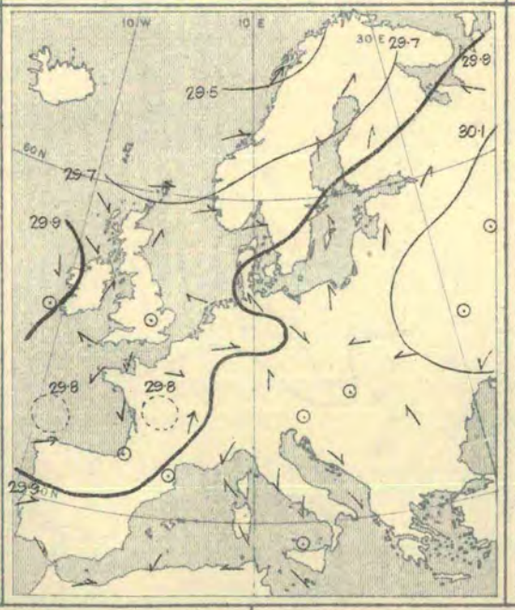
Temperature and Weather. 8 a.m.



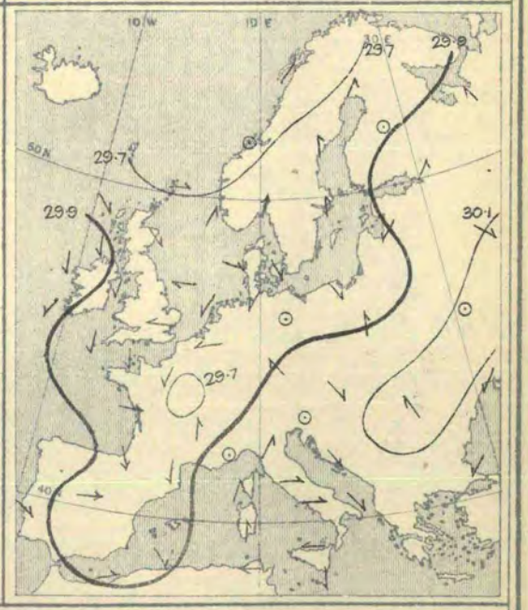
Weather fine and bright over eastern, central, south-eastern, and southern Europe; unsettled (and in many parts rainy) over the British Islands, North Sea, and Norway. Showers later in most parts of Scotland, and a good deal of rain over the southern counties of England, as well as in the Netherlands and several parts of France and Germany. Thunder and lightning in several localities over the latter region, and air close over the south of England.

Temperature in morning exceeding 80° at the Algerian stations, and above 70° over the Mediterranean, Italy, Switzerland, and the south-east of France; below 60° over the British Islands, Norway, and the northern parts of Sweden. Rising to rather above 70° over the inland parts of England later, to between 80° and 90° in many parts of France, to upwards of 90° in many parts of Italy, and to between 100° and 110° in some parts of Algeria.

Barometer and Wind. 8 a.m.



6 p.m.



Wind mainly South-Westerly and Southerly over northern Europe, and Westerly to North-Westerly in Scotland; very variable elsewhere. Anti-cyclonic over Russia, Austria, and Germany, cyclonic over France. Becoming Easterly over the south-east of England later, and North-Easterly over the north of France, while it was North-Westerly and Westerly over Spain and the south-west of France; remaining light to moderate in force generally.

Barometer highest, 30·1 ins. and more, over Russia, and exceeding 29·9 ins. off the west of Ireland and over the south of Spain. Lowest, 29·6 ins. and less, to the northward of Scotland and over the northern half of Norway, and below 29·8 ins. in several shallow local depressions lying over the Bay of Biscay, France, and north-west Germany. Falling over Spain, France, and the south-east of England later, rising at our western and northern stations and in Norway.

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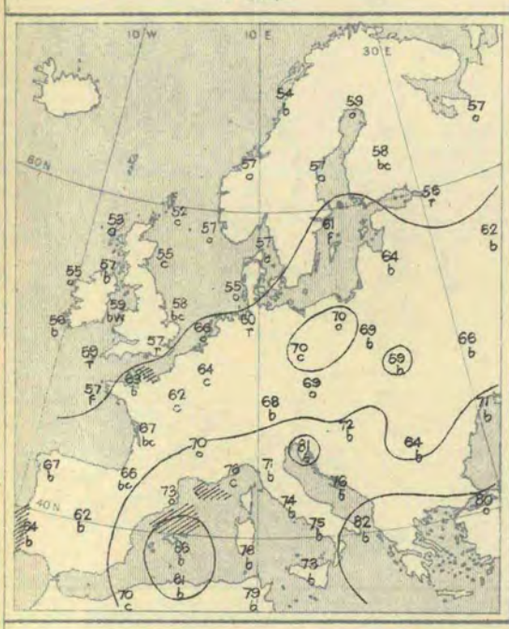
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 19th August.

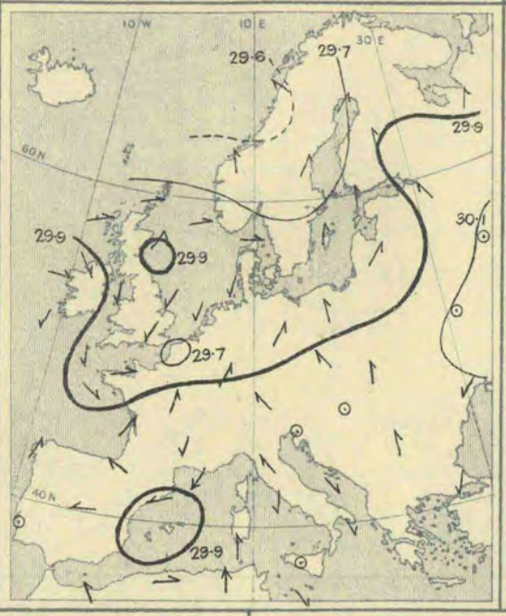
Temperature and Weather.

8 a.m.

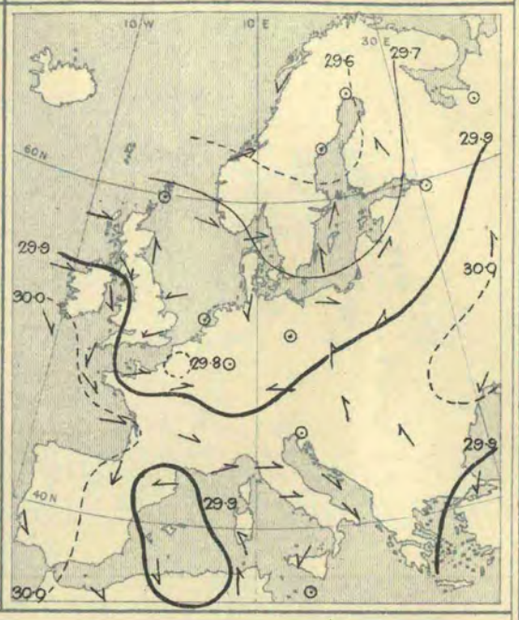


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over eastern, southern, and south-western Europe, and in most parts of the British Islands; dull, rainy, and close in the south of England, foggy at Brest, dull in the south of France. A good deal of rain in the southern parts of England, Holland, and many parts of France later, thunder and lightning in several places; 0·4 ins. of rain at Wick also, but very little at our western and northern stations as a whole.

Temperature exceeding 70° at the Mediterranean stations and over Germany, and exceeding 80° over the western half of Algeria, as well as at Brindisi and Trieste; below 60° over the United Kingdom, Norway, and the northern half of Sweden. Rising later to 60° and more over the greater part of England, but to only 59° in London; to above 80° in many parts of France, to 90° and more at Nice and in many parts of Italy, and to 110° and more in some parts of Algeria.

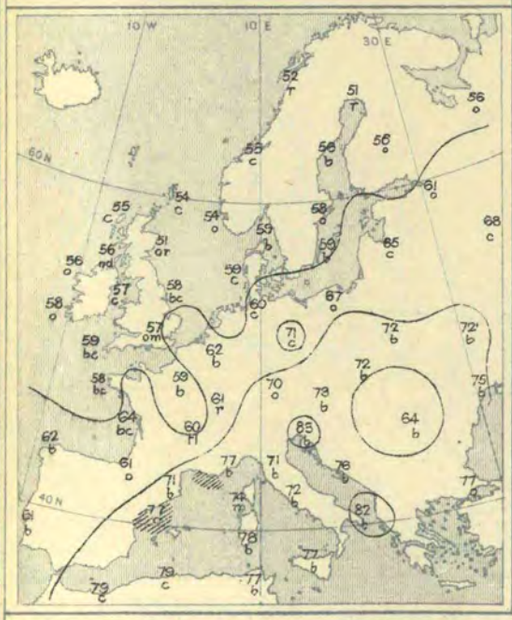
Wind extremely variable; mainly South-Westerly over the northern half of France, Southerly over the Baltic and Sweden, South-Easterly over the northern half of Norway; varying between West and North over the British Islands. Little change later, except in Norway, where a fresh Westerly breeze set in. [Newspapers report severe local storms in Switzerland and some parts of Austria.]

Barometer highest, 29·9 ins. to 30·2 ins., over Russia, 29·9 ins. to 30·0 ins. and more over the Atlantic, adjacent to the western coasts of the British Islands and Spain. Lowest, 29·6 ins. and less, off the north-west of Norway; 29·7 ins. and less in small depressions lying over north Germany and the English Channel; 29·9 ins. and less over the Balearic Isles and north-east of Spain. Changing little and irregularly later.

Wednesday, 20th August.

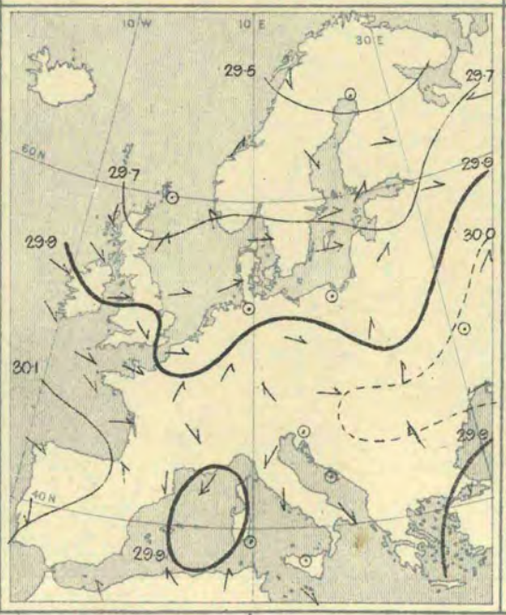
Temperature and Weather.

8 a.m.



Barometer and Wind.

8 a.m.



6 p.m.

Weather fine and bright over south-eastern, southern, and south-western Europe, and the greater part of the Mediterranean; cloudy, changeable, and unsettled over northern Europe and the British Islands; rain in many places, fog in Caithness, and a thunderstorm at Breslau. Air close and oppressive in many parts of England. Rain at times during day at most of our northern and north-western stations, and slight showers in a few southern localities—0·6 in. at Turin, 0·7 in. at Berne.

Temperature exceeding 80° in several parts of Italy, at Brindisi, and Trieste, and exceeding 70° over southern and south-eastern Europe generally, as well as in some parts of north Germany. Below 60° over the British Islands and northern Europe, and as low as 51° at Haparanda, Sumburgh Head, and Aberdeen, 52° at Bodö, and 53° at Stornoway. Rising to between 60° and 68° over England later, to 74° at Paris, 88° at Nice, 90° and more in several parts of Austria and Italy, and to upwards of 100° in some parts of Algeria.

Wind mainly Westerly (South-West to North-West) over the northern half of Europe, very variable elsewhere; moderate to light in force generally. A well-defined cyclonic circulation of fresh winds prevalent over the Mediterranean. Not much change later.

Barometer highest, 29·9 ins. to 30·1 ins. and more, in two areas—one lying over south-eastern, the other over south-western Europe and the neighbouring parts of the Atlantic. Lowest, 29·4 ins. and less, over Lapland, and about 29·85 ins. in two depressions—one lying between the south-east coast of England and the Netherlands, the other over the northern parts of the Mediterranean. Rising over north-western Europe during day, falling over southern Russia, but shallow local disturbances still prevailing in our Islands, while that over the Mediterranean moved eastwards.

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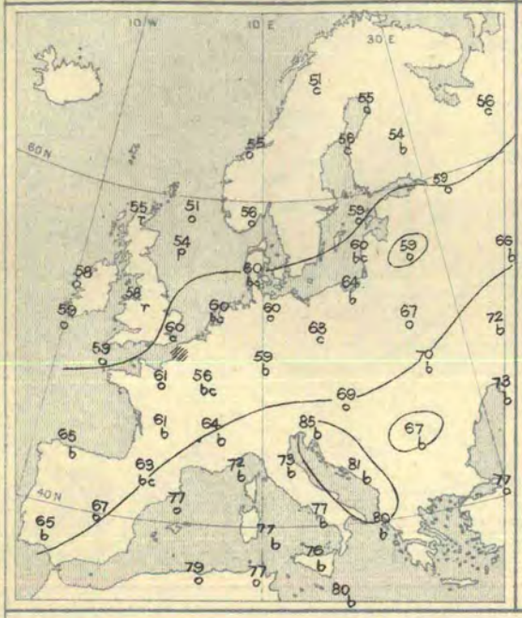
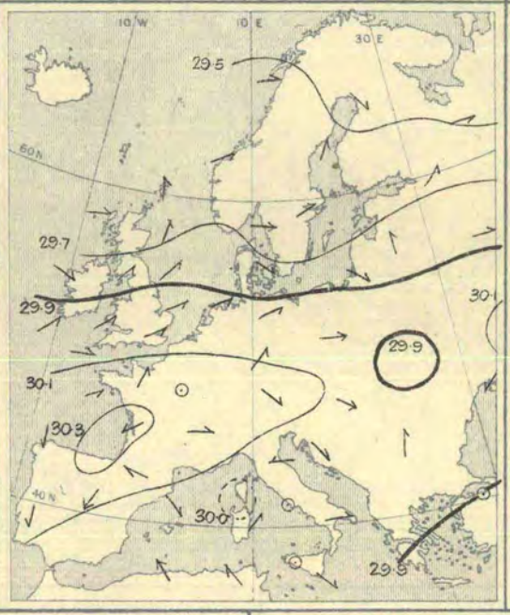
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 21st August.

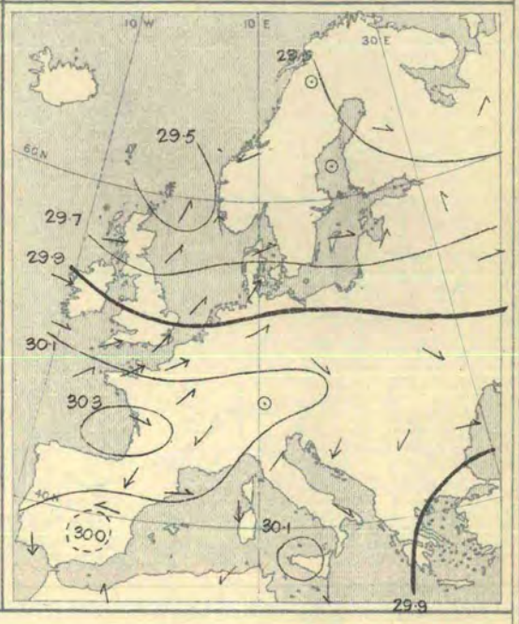
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather in morning fine and bright over eastern, south-eastern, and the greater part of central and southern Europe, as well as over the Mediterranean; cloudy and changeable over the British Islands, North Sea, and northern Europe. Rain subsequently throughout the latter regions, as well as in many parts of Germany and Austria—heavy in some localities, thunderstorms in Scotland.

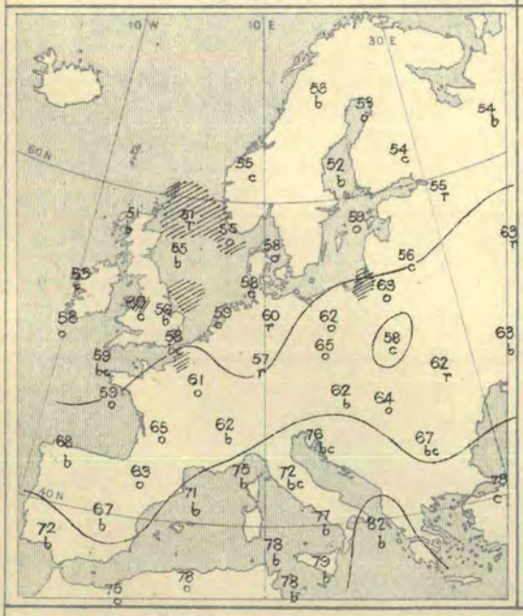
Temperature in morning, 80° or more at Trieste, Brindisi, and Biskra; above 70° on the Mediterranean coasts generally and in many parts of south-eastern Europe; below 60° over the British Islands, north-western and northern Europe generally, and as low as 51° at Bodö and Sumburgh Head, 53° at Wick, 54° at Kuopio and Aberdeen, and 55° at Haparanda and Stornoway. Rising during day to between 60° and 67° over the British Islands and Sweden, to 70° and more over Germany and the north of France, and to 80° and more in the south of France, and to upwards of 90° in several parts of Austria and Italy.

Wind moderate from between West and South-West over all the more northern countries of Europe, light to moderate and very variable in the south; variable, and in places strong, over parts of Austria and Germany. Very little change later except of a local character.

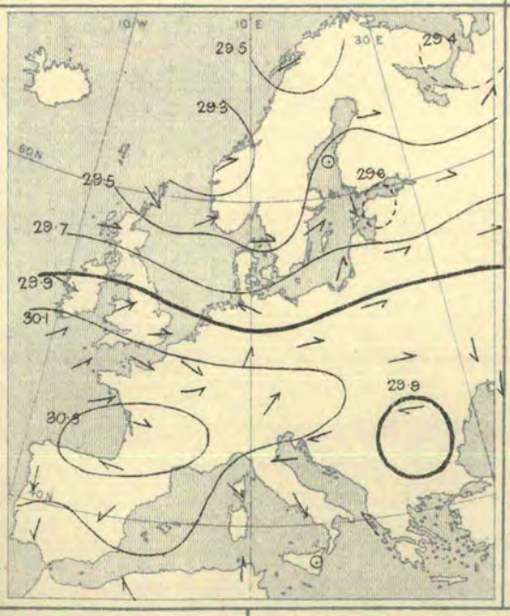
Barometer highest, 30·1 ins. to 30·3 ins. and more, over western and central Europe, 30·0 ins. to 30·1 ins. and more over southern Russia. Lowest, 29·5 ins. and less, over Lapland; 29·6 ins. and less off the north of Scotland; 29·9 ins. in a local disturbance over Poland; and 30·0 ins. in another between Corsica and the French coasts. Changes slight and irregular later.

Friday, 22nd August.

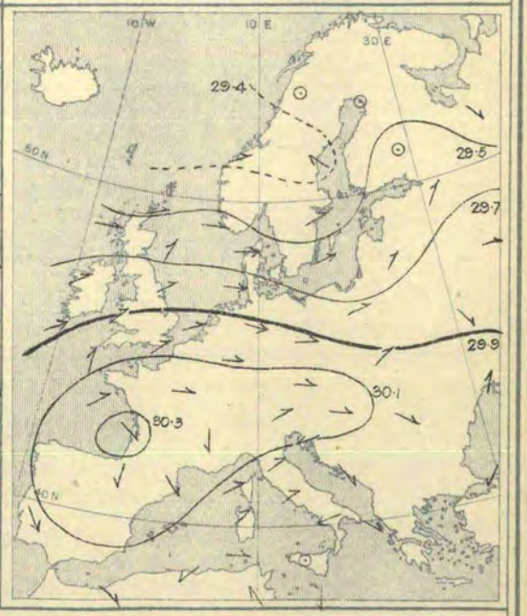
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather fine and bright over south-eastern, southern, and south-western Europe, very changeable elsewhere—clear in some localities, dull in others, and rainy in several. A great deal of rain in Ireland and Scotland later, showers over Germany, the Baltic, Scandinavia, and several parts of England, fine over France, south-eastern and southern Europe as a whole.

Temperature, in morning, exceeding 80° at several Mediterranean and Adriatic stations, and ranging between that value and 70° over southern Europe as a whole; below 70° elsewhere; below 60° over the United Kingdom, North Sea, and northern Europe, and as low as 51° at Sumburgh Head and Stornoway, 52° at Belmullet and Hernösand, 53° Aberdeen, Bodö, and Haparanda. Rising during day to between 60° and 69° over England and Germany, and to between 80° and 90° over Austria and the south of France, to upwards of 90° in parts of Italy, and to considerably over 100° in central Algeria.

Wind moderate to fresh from Westward over Germany, the North Sea, England, Ireland, and the north of France; fresh from North-West in the north of Scotland, South-Westerly over the Baltic, variable over northern Europe, Easterly and North-Easterly over southern and south-western Europe, and variable over the Mediterranean and south-eastern Europe. Backing to the Southward in Ireland later, and increasing greatly in force both there and on our south-western coasts.

Barometer highest, 30·0 ins. to 30·3 ins. and more, over Spain, the Bay of Biscay, France, south Germany, and the southern parts of our Islands, and exceeding 29·3 ins. in Lapland. Lowest, 29·3 ins. and less, in a depression off the west of Norway; 29·9 ins. and less in another in the neighbourhood of Buda-Pesth. Falling decidedly in Ireland later, as a new depression advanced towards Ireland from the Atlantic.

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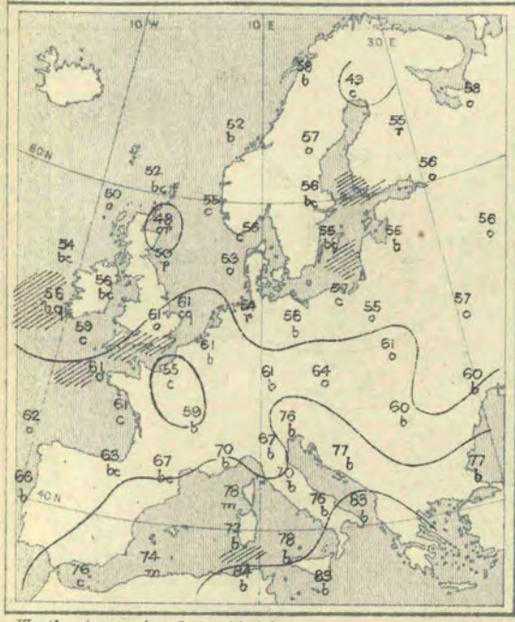
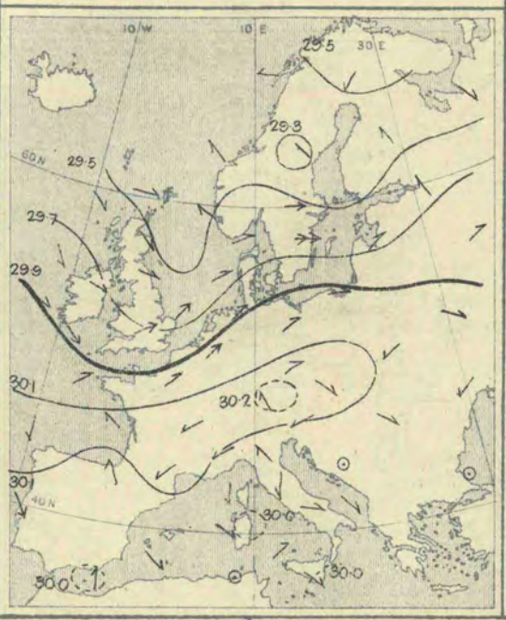
Saturday, 23rd August.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather, in morning, fine and bright over south-eastern and southern Europe and at most of the Mediterranean stations, as well as in some parts of Scandinavia and Ireland; cloudy or overcast elsewhere, and rainy in a few localities. Showery over western and northern Europe later, with thunderstorms in several parts of France; rainfall very heavy at Skudesnaes and Besançon.

Temperature above 80° at some Algerian and Italian stations, and above 70° on most of the Mediterranean coasts; much lower elsewhere. As low as 48° at Aberdeen, 49° at Haparanda, 50° at Stornoway, Malin Head, Leith, and Shields, and below 60° over north-western, northern, and north-eastern Europe as a whole. Rising to between 60° and 70° over England later, to upwards of 90° in some parts of Italy, and to upwards of 100° over Algeria.

Wind moderate North-Westerly in the north-west and west of the United Kingdom, Northerly over the western parts of the Spanish Peninsula, South-Westerly fresh to a gale over England, moderate in Germany and the Netherlands; Westerly over the Baltic, very variable, but mainly Easterly to Northerly, over central and southern Europe. Easterly breezes spreading over Lapland and the north of Norway, and freshening greatly later in the day.

Barometer highest, 30·0 ins. to 30·2 ins., over south-western, western, and central Europe; 29·5 ins. and more over Lapland. Lowest, 29·3 ins. and less, in a depression near Hernösand, and 29·5 ins. and less off our own north-eastern coasts. Depression in latter region growing deeper later, that near Hernösand filling up. Little change elsewhere.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟿ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week pressure has been, as a rule, highest over south-western and south-eastern Europe, lowest in the north, and depressions have moved from west to east over the more northern countries, causing variable South-Westerly to North-Westerly winds and changeable showery weather, which at the close of the week were increasing in intensity. The more southern countries have, as a whole, experienced finer and warmer weather, with light winds; but on Tuesday severe local storms of wind, rain, and hail were reported to have occurred over certain parts of Switzerland and Austria, and thunderstorms of great intensity over the south-east of France.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June,** *price* 4d. *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 35.] *Third Series.* WEEK ENDING SATURDAY, 30TH AUGUST, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 206.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	62	35	56·2	44·7	50·1	4 below.	57	− 28	0	0	1433	+ 51	438	− 72
	1. SCOTLAND, EAST -	64	36	58·4	43·3	50·4	5 below.	59	− 45	0	0	1707	− 98	485	− 58
	2. ENGLAND, N.E. - -	65	40	60·1	44·4	51·8	5 below.	69	− 45	0	0	1890	− 38	389	− 93
	3. ENGLAND, EAST -	67	38	62·7	44·2	52·9	7 below.	76	− 50	0	0	2145	− 93	468	− 39
	4. MIDLAND COUNTIES	6[illegible]	34	61·7	43·1	51·8	7 below.	69	− 54	0	0	2112	−116	478	− 26
	5. ENGLAND, SOUTH -	72	36	63·9	47·6	55·3	5 below.	93	− 41	0	0	2319	− 88	305	− 68
Principal Grazing &c., Districts.	6. SCOTLAND, WEST -	62	32	59·1	45·4	51·8	4 below.	69	−38	0	0	1842	− 51	325	− 73
	7. ENGLAND, N.W. -	63	35	58·5	45·9	51·8	7 below.	[illegible]9	−46	0	0	1977*	− 35	302	− 81
	8. ENGLAND, S.W. -	68	31	61·2	46·9	53·6	6 below.	81	−42	0	0	2177	−104	245	+ 12
	9. IRELAND, NORTH -	61	34	58·3	45·3	51·4	6 below.	66	−42	0	0	1905	− 72	294	− 56
	10. IRELAND, SOUTH -	63	36	59·9	55·2	52·1	6 below.	71	−43	0	0	2174	− 59	224	− 15
	— CHANNEL ISLANDS -	64	45	61·2	51·6	56·1	5 below.	99	−34	0	0	2431	− 9	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 206.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	10	0 (average)	172	+25	32·9	+ 0·8	22	22	809	−145	25	− 3
	1. SCOTLAND, EAST -	6	12	5 more.	148	+21	21·0	+ 0·5	32	32	96[illegible]	−138	29	− 4
	2. ENGLAND, N.E. - -	5	7	0 (average)	125	+ 3	16·9	− 0·6	43	44	926	− 78	28	− 3
	3. ENGLAND, EAST -	5	5	1 less.	130	+ 6	16·9	+ 0·8	47	49	1161	− 61	36	− 2
	4. MIDLAND COUNTIES-	5	6	1 less.	124	+ 2	15·8	− 2·9	43	45	1016	− 72	31	− 3
	5. ENGLAND, SOUTH -	5	9	3 more.	124	+ 7	19·6	+ 2·4	48	50	1094	− 79	34	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	5	8	2 less.	149	+13	32·5	− 0·9	42	44	1039	− 16	32	0
	7. ENGLAND, N.W. - -	6	13	6 more.	142	+16	22·3*	+ 1·0	42	43	976	− 80	30	− 2
	8. ENGLAND, S.W. - -	5	8	1 less.	145	+12	25·6	− 1·2	53	55	1137	−122	35	− 4
	9. IRELAND, NORTH -	5	10	3 more.	162	+ 9	22·1	− 0·8	40	41	996	+ 16	31	+ 1
	10. IRELAND, SOUTH -	5	7	1 less.	157*	+15	27·4*	+ 1·9	46	47	1067	− 50	33	− 1
	— CHANNEL ISLANDS -	6	7	2 more.	145	+ 2	22·9	+ 3·2	58	61	1359	−137	42	− 5

General Remarks.

Weather has again been unsettled and cold, with frequent rain and occasional thunder and lightning. In most parts of the Kingdom, however, fine bright intervals have occurred, and towards the end of the week the conditions improved generally.

Temperature has continued below the mean in all districts, the deficit having ranged from 4° in the north and west of Scotland to 6° in Ireland and to as much as 6° or 7° in most parts of England. The highest of the maxima, which were recorded on rather irregular dates, varied from 61° to 63° in Ireland, from 62° to 64° in Scotland, and from 63° to 72° over England. The absolute minima were registered on the 30th, and were very low for the time of year. In "England S.W." (at Llandovery) the sheltered thermometer fell to 31° and in "Scotland W." to 33°; elsewhere the minima varied from 34° in the "Midland Counties" and "Ireland N." to 40° in "England N.E." and 45° in the "Channel Islands." During the latter part of the period sharp frosts occurred on the grass at several of the inland stations.

Rainfall has been more than the mean in "Scotland E.," "England S.," "England N.W.," "Ireland N.," and the "Channel Islands"; in the other districts it has either been a little less than the normal or about equal to it.

Bright Sunshine has been more prevalent over the country generally than for some time past, the percentage of the possible duration having ranged from 22 in "Scotland N." and 32 in "Scotland E." to between 44 and 55 in most other districts and to 61 in the "Channel Islands."

Barometer and Wind.—The barometer has been generally highest in the south-west or south, while some irregularly formed depressions have travelled over our more northern districts, and a few subsidiary systems have passed over other parts of the Kingdom. The wind has been generally moderate to strong from the Westward or North-Westward, and at some of the Channel stations has attained the force of a gale.

* This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 205 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head Ⓢ	58	42	56·0	45·3	50·3	—3·3	58	0	6	0·18	—0·57	*	*
	Stornoway Ⓢ	58	39	55·6	45·6	50·3	—3·4	58	0	6	0·47	—0·36	24·9	25
	Wick Ⓢ	60	38	57·1	44·7	50·5	—3·7	60	0	7	1·08	+0·52	*	*
	Lairg Ⓢ	61	37	56·0	44·1	49·7	—4·0	54	0	7	1·13	+0·45	*	*
	Glencarron Ⓢ	58	38	54·7	43·2	48·6	—4·9	46	0	6	2·30†	+0·82	?	?
	Fort Augustus Ⓢ	61	35	56·6	44·3	50·0	—5·1	56	0	7	0·84†	?	12·9	13
	Fort William Ⓢ	62	36	57·7	45·5	51·2	—4·5	64	0	4	0·67†	?	27·3	28
1. SCOTLAND, E.	Nairn Ⓢ	62	41	58·1	46·1	51·7	—3·6	68	0	7	2·68	+2·06	*	*
	Aberdeen Ⓢ	60	39	57·4	44·9	50·8	—4·5	62	0	7	0·92	+0·20	41·0	41
	Braemar Ⓢ	58	37	54·3	41·8	47·7	—4·8	41	1	7	1·18	+0·27	18·8‡	19‡
	Ochtertyre Ⓢ	64	36	62·3	41·1	51·1	—3·8	67	3	4	0·56	—0·27	*	*
	Leith Ⓢ	63	42	60·6	44·7	52·2	—4·6	71	0	6	0·45	—0·13	29·5‡	30‡
	Marchmont Ⓢ	61	38	57·9	41·0	48·9	—5·6	53	3	6	1·35	+0·55	37·0	37
2. ENGLAND, N.E.	Alnwick Castle	60	41	56·6	43·4	49·6	—6·0	53	0	5	0·70	0·00	*	*
	Durham	65	40	61·0	41·6	50·7	—5·4	63	1	6	0·59	—0·03	41·2	42
	Shields	64	41	61·9	43·6	52·2	—4·1	71	0	5	0·64	+0·02	*	*
	Scarborough Ⓜ	62	45	59·8	45·9	52·4	—5·3	73	0	7	0·70	+0·10	44·6‡	46‡
	York	65	42	61·4	43·7	52·0	—5·9	70	0	3	0·74	+0·17	?	?
	Spurn Head	63	47	59·9	48·4	53·8	—4·2	83	0	6	0·50	?	*	*
3. ENGLAND, E.	Hillington Ⓜ	66	38	63·3	42·5	52·3	—6·8	72	0	4	0·67	+0·07	45·8	47
	Yarmouth	63	44	60·9	46·3	53·2	—6·8	78	0	4	0·40	—0·12	*	*
	Geldeston	65	40	63·1	44·3	53·1	—6·7	78	0	5	0·45	0·00	47·5	49
	Cambridge	67	39	64·7	43·7	53·6	—6·8	81	0	5	0·45	—0·07	46·2	48
	Rothamsted	63	40	61·7	44·3	52·5	—7·5	74	0	6	0·43	—0·17	49·8	52
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	63	39	61·0	43·3	51·6	—7·5	67	0	5	0·86	+0·27	36·0‡	37‡
	Loughborough	67	39	63·6	43·7	55·1	—6·4	78	0	3	0·55	—0·08	51·6‡	53‡
	Cheadle Ⓜ	62	40	58·6	42·2	49·9	—8·7	55	0	4	0·44	—0·39	*	*
	Churchstoke Ⓜ	62	34	59·6	41·5	50·0	—8·4	58	1	5	0·73	+0·10	34·5	36
	Hereford Ⓜ	68	35	63·3	43·0	52·5	—6·2	74	0	6	0·23	—0·40	*	*
	Cirencester	65	37	62·4	42·1	51·6	—8·3	67	0	5	0·63	—0·13	45·4	47
	Oxford	68	40	63·4	45·6	54·0	—6·6	84	0	6	0·51	—0·06	47·6	50
5. ENGLAND, S.	London	67	40	64·7	47·3	55·5	—5·8	95	0	4	0·66	+0·13	43·6‡	45‡
	Strathfield Turgiss Ⓜ	68	36	65·1	44·7	54·3	—6·2	86	0	3	0·32	—0·21	*	*
	Dungeness	67	42	63·3	48·3	55·4	—5·3	94	0	6	0·90	+0·38	54·3‡	57‡
	Hastings (St. Leonards)	66	45	62·1	49·0	55·2	—5·5	92	0	4	1·29	+0·70	47·9	50
	Southampton	72	42	66·4	48·0	56·6	—4·0	102	0	5	0·88	+0·25	53·7	56
	Hurst Castle	67	45	64·9	50·7	57·4	—3·2	108	0	6	1·24	+0·62	*	*
	Stowell Ⓜ	63	40	60·5	45·5	52·6	—6·8	74	0	5	1·10	?	41·6‡	43‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	62	40	59·5	45·0	51·8	—4·4	69	0	6	1·18†	—0·03	*	*
	Glasgow	60	43	58·2	45·1	51·3	—4·4	65	0	4	0·76	—0·14	36·2	37
	Ardrossan	61	45	59·9	47·7	53·4	—3·0	80	0	5	0·76†	—0·16	*	*
	Glenlee Ⓢ	61	33	? 59·2	40·6	?49·3	?—6·4	? 57	4	5	0·68	—0·40	*	*
	Douglas (Isle of Man)	62	45	58·6	48·4	53·2	—3·8	78	0	4	0·55	—0·31	48·2	50
7. ENGLAND, N.W.	Newton Reigny	61	35	56·7	39·5	47·6	—8·9	50	7	7	0·64	—0·10	31·5	32
	Stonyhurst	61	41	57·6	44·1	50·5	—7·9	60	0	6	2·39	+1·31	38·3	39
	Blackpool Ⓜ	62	?	60·2	?	?	?	?	0	7	2·09	+1·35	50·2	52
	Manchester	63	42	58·5	44·1	50·9	—8·1	62	0	7	1·71	+0·89	*	*
	Liverpool Obsy. (Bidston)	62	46	59·0	48·9	53·7	—5·8	82	0	6	0·80	+0·11	*	*
	Llandudno Ⓜ	61	44	59·0	49·1	53·6	—6·1	81	0	7	0·77	+0·12	47·1	49
	Holyhead	62	49	60·3	49·7	54·7	—4·0	89	0	5	0·96	+0·27	*	*
8. ENGLAND, S.W.	Llandovery	66	31	62·4	41·0	51·0	—7·8	67	3	7	1·02	—0·13	*	*
	Pembroke	60	48	58·0	51·7	54·7	—3·0	89	0	4	0·33	—0·37	51·5	54
	Arlington (N. Devon)	61	40	58·9	45·0	51·5	—6·9	67	0	6	1·25	0·00	*	*
	Cullompton Ⓜ	65	35	63·3	43·3	52·7	—7·3	75	0	5	0·79	+0·09	48·3	50
	Falmouth	61	44	59·8	49·0	54·1	—6·1	85	0	6	0·99	+0·06	55·8	59
	Plymouth	68	46	64·7	50·0	56·9	—4·3	104	0	4	1·02	+0·28	54·4	57
	Prawle Point	63	45	61·3	48·6	54·6	—3·6	88	0	4	0·46	?	*	*
9 IRELAND, N.	Malin Head	57	48	55·4	49·6	52·3	—3·9	72	0	5	1·01	?	*	*
	Londonderry	61	42	58·3	44·7	51·1	—5·9	64	0	5	1·99	+1·14	*	*
	Mullaghmore	59	46	57·4	48·7	52·8	—5·1	76	0	6	1·28	+0·43	*	*
	Belmullet	59	43	57·4	47·9	52·4	—4·4	73	0	6	1·65	?	*	*
	Markree Castle	60	34	58·3	42·1	49·7	—8·0	54	0	5	1·34	+0·54	43·9	45
	Brookeborough	60	34	58·2	40·2	48·7	—9·0	54	5	3	0·75	?	*	*
	Armagh	61	39	59·0	42·9	50·5	—7·2	60	0	4	0·44	—0·21	35·1	36
	Donaghadee	61	47	59·4	49·4	54·1	—2·7	85	0	5	0·50	—0·20	*	*
	Edgeworthstown	61	39	61·0	41·9	50·9	—7·1	63	0	6	0·40	—0·38	*	*
10. IRELAND, S.	Dublin	60	43	58·1	46·4	51·9	—6·3	69	0	§ 6	0·64§	+0·02§	42·0	43
	Parsonstown	61	37	59·1	43·0	50·6	—7·9	60	0	6	0·97	+0·17	45·2	47
	Kilkenny	61	36	59·3	41·6	49·9	—8·2	57	1	4	0·51	—0·25	*	*
	Waterford	66	39	62·7	43·1	52·3	—6·3	72	0	5	0·47	—0·31	*	*
	Roche's Point	62	47	60·9	48·9	54·5	—4·7	88	0	3	0·32	—0·56	*	*
	Valencia	63	43	60·9	48·3	54·2	—4·5	85	0	6	0·96	—0·13	49·5	52
	Killarney	61	38	59·3	44·2	51·3	—7·4	65	0	5	1·02	?	*	*
	Foynes	61	41	59·1	46·0	52·2	—5·8	71	0	5	0·90	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	60	50	59·4	50·9	54·9	—5·8	90	0	5	0·63	+0·02	*	*
	Jersey	64	45	63·0	52·3	57·3	—4·4	107	0	6	0·84	+0·27	58·1	61

Stations marked Ⓜ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values for the week ending August 2nd should be "5," "0·58," "—0·01."

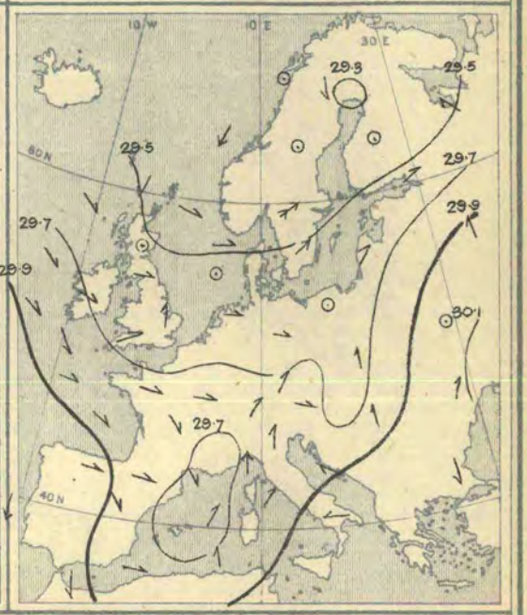
The reports from Ingatestone have ceased.

Sunday, 24th August.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather in morning fine and bright over eastern, south-eastern, and the greater part of southern Europe, as well as over England, the eastern portion of Ireland, and the north-western parts of Scandinavia; cloudy and unsettled over Germany and France, rainy in Scotland and over Finland, showery in the north and west of Ireland. Heavy rains later over most parts of western and north-western Europe, thunder and lightning in the south of England and in most parts of France and Germany.

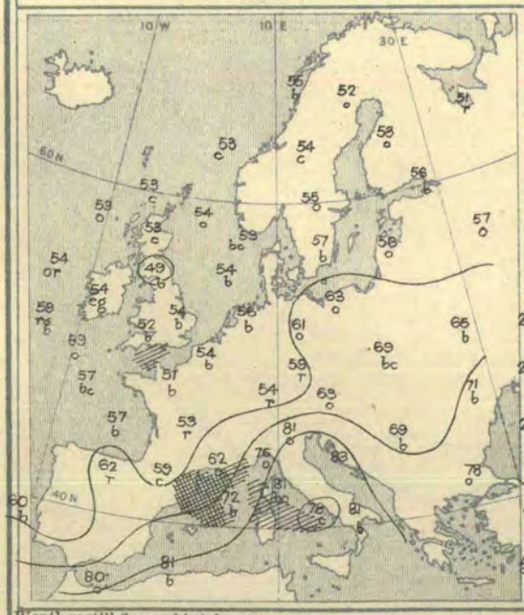
Temperature in morning exceeding 80° at Trieste, Brindisi, Cagliari, Malta, Tunis, and Biskra, and exceeding 70° at nearly all the Mediterranean stations; much lower over the northern half of Europe; 49° at Ulleaborg, Aberdeen, and Nairn, 51° at Moscow, Sumburgh Head, and Stornoway, 52° at Donaghadee, Liverpool, Oxford, and Yarmouth. Rising during day to between 60° and 67° over Great Britain and to upwards of 70° over the south-west and south of France, to 80° and more over Austria, to 90° and more over Italy, and to rather above 100° in some parts of Algeria. Falling fast over Great Britain towards night.

Wind light to moderate in most places—Westerly to Northerly over the British Islands, the Bay of Biscay, and Spain, Southerly over Germany and western Russia, North-Easterly over Lapland and the north of Sweden. Westerly gales reported at Skudesnaes, the Scaw, and Wisby, and a Northerly gale at Faerder. Gale moderating later, not much change elsewhere.

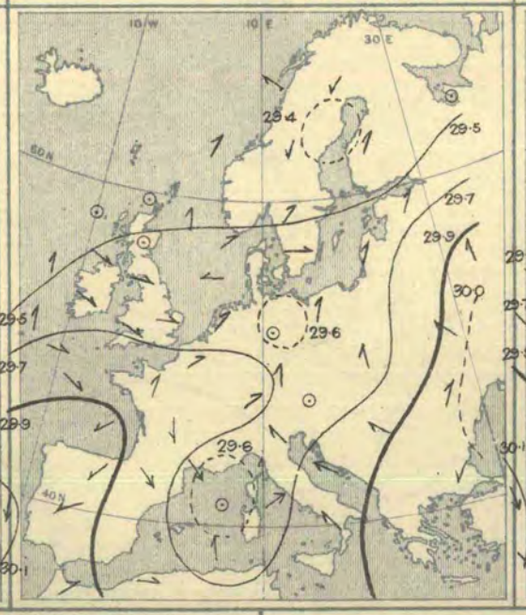
Barometer highest, 29·9 ins. to 30·1 ins., over Spain and the Bay of Biscay, as well as over the whole of south-eastern Europe and the Black Sea. Lowest, about 29·1 ins., near Christiania; below 29·6 ins. over Scotland, Scandinavia, the Baltic, and northern Russia. Shallow local depressions over the British Isles, France, and north Germany. Very little change later, except in the south of Norway, where the depression filled up.

Monday, 25th August.

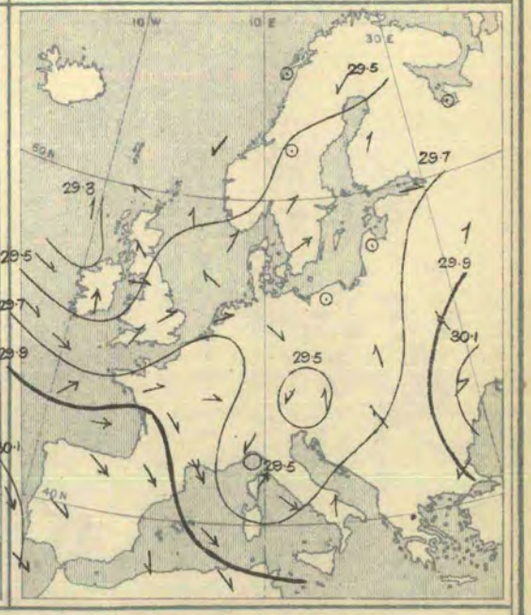
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather still fine and bright over south-eastern Europe and at many of the Mediterranean and Spanish stations, temporarily clear and bright in many parts of France and England; cloudy and unsettled elsewhere, with rain over the southern parts of France and Germany and in the west of Ireland. Rain falling later throughout the United Kingdom and France—heavily at the north-western stations; thunder occurring at Holyhead, Wick, and in parts of the Netherlands.

Temperature, in morning, above 80° on the shores of the Adriatic, at Rome, Cagliari, and some Algerian stations, above 70° on the southern and eastern shores of the Mediterranean generally and most parts of the Balkan Peninsula. Much lower elsewhere; below 60° over the whole of northern and north-western Europe, and as low as 49° at Shields, 50° at Parsonstown, 51° at Oxford, Paris, and Archangel. Rising during day to between 60° and 68° over England and the greater part of France, to 70° at Lisbon and Perpignan, to 72° at Nice, to 85° and more over southern Austria, 90° and more over Italy, and about 100° over parts of Algeria.

Wind extremely variable; (1) Southerly in Ireland, Westerly over England, Northerly over Spain; (2) Southerly over Russia, South-Westerly over the Baltic; (3) separate cyclonic circulations prevailings over Gulf of Bothnia, north Germany, and the northern parts of the Mediterranean. Veering to North-West in Ireland later, and becoming strong to a gale in force from between South-West and North-West over the English Channel.

Barometer highest, 29·9 ins. to 30·1 ins., both over the extreme south-western and south-eastern parts of Europe. Lowest, 29·4 ins. and less, in a depression over the Gulf of Bothnia, and 29·6 ins. and less in two others—one over north Germany, the other over the northern parts of the Mediterranean. New "V"-shaped disturbance advancing north-eastwards up our western coasts later and spreading eastwards towards the North Sea, and another disturbance forming over Hungary.

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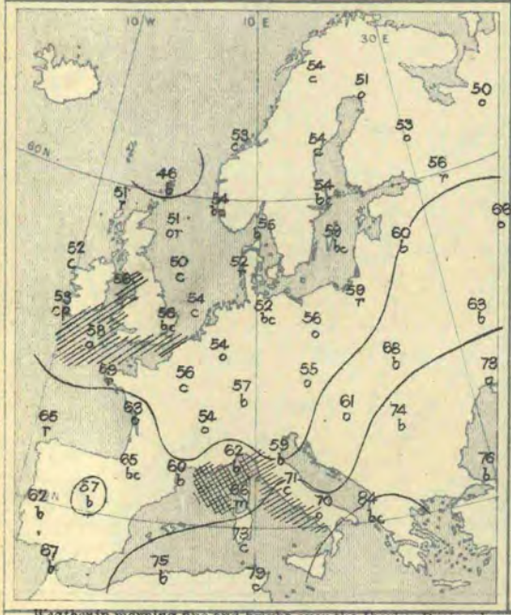
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 26th August.

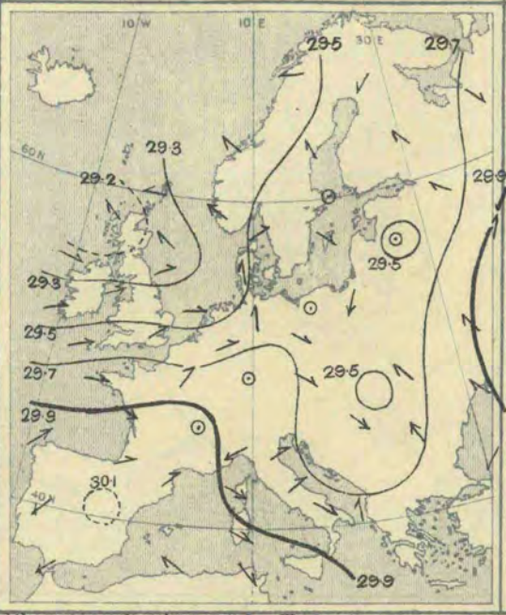
Temperature and Weather.

8 a.m.

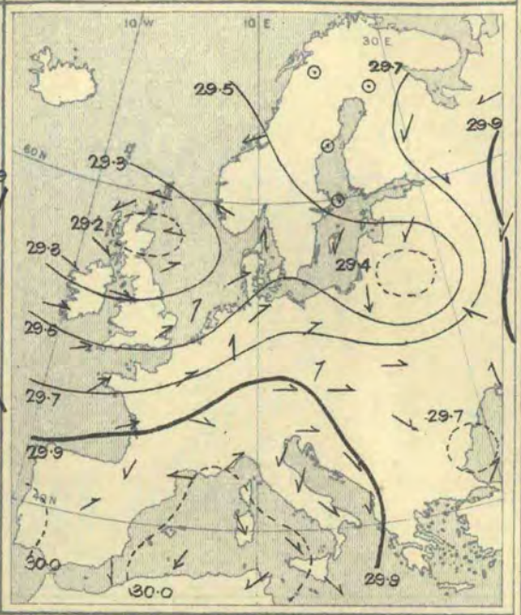


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over the Iberian Peninsula and the western and southern parts of the Mediterranean, as well as over south-eastern Europe, and on the shores of the Black Sea; cloudy, changeable, and very unsettled elsewhere, with rain in many parts of our Islands and neighbourhood, as well as over the Baltic Provinces, eastern Germany, and Austria. Much rain later over the northern and southern parts of our Islands, small quantities elsewhere—Holland, Germany, the north of France, and at some of the Baltic stations; thunderstorms over the northern parts of England and the coasts of the North Sea.

Temperature low over north-western Europe, and falling very decidedly over Germany, Austria, Switzerland, Italy, and the eastern parts of the Mediterranean. Morning reading still above 80° at Brindisi, and above 70° over the Balkan Peninsula, Algeria, and the western parts of the Mediterranean. Much lower elsewhere; as low as 49° at Vienna, 51° at Wiesbaden, 54° at Lyons, and 55° at Toulon; ranging from 50° to 55° over Scotland, Norway, and Finland. Rising to 64° at some of our stations later, and to between 70° and 80° in south of France, above 80° in some parts of Hungary, and to 90° and more over southern Italy and Algeria.

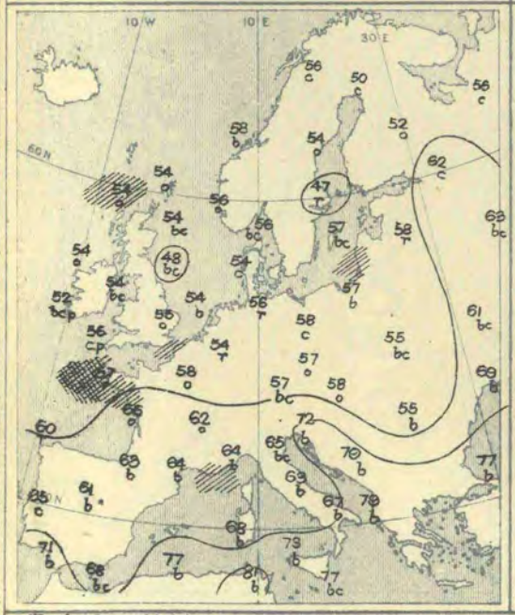
Wind moderate from South-East in Norway and the northern half of Scotland, and from South-West in the northern parts of England and Ireland; strong to a gale from West in the Channel, and from between North-West and North-East over Corsica and the south of France; light from South-East and South over Russia; small cyclonic circulation over the Baltic Provinces and Austria-Hungary. Shifting to East and North-East in the north and west of Scotland later, and continuing to blow hard in English Channel. Circulation over Hungary breaking up.

Barometer highest, 29·9 ins. to 30·1 ins., over Algeria and south-western Europe, as well as over southern Russia and the Caucasus. Lowest, 29·2 ins. and less, in a depression off the west of Scotland, and about 29·5 ins. in small disturbances over the Baltic Provinces and Hungary. Scotch depression becoming more complex later and moving eastwards slowly, that over the Baltic Provinces growing deeper, that over Hungary filling up and giving way to a high-pressure system from the southward.

Wednesday, 27th August.

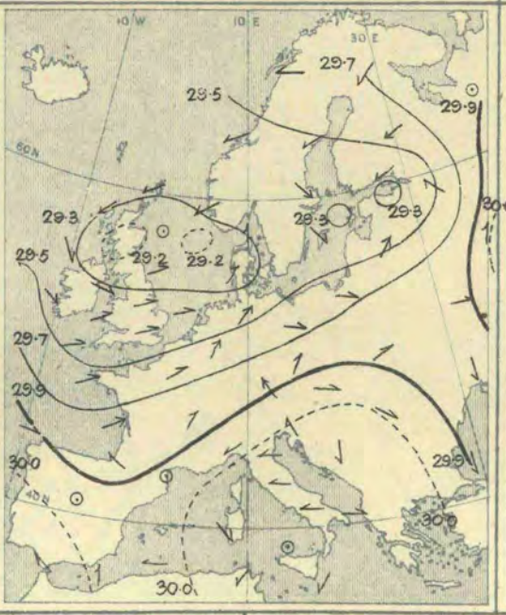
Temperature and Weather.

8 a.m.

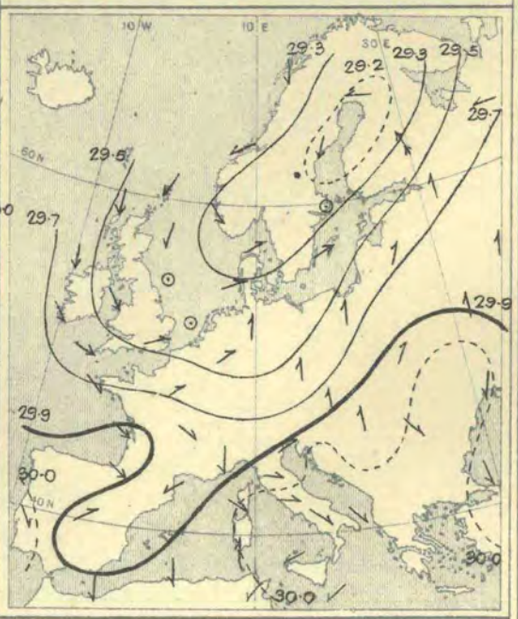


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright over south-eastern Europe and at the Mediterranean stations, as well as in some parts of Ireland, England, and Norway; changeable and unsettled over north-western and northern Europe as a whole, with rain in many places. Rain falling very generally over western and northern Europe later—heavily in the west and north of France and in many parts of Scandinavia, as well as at Mullaghmore; thunder and lightning in the east and south-east of England, and at some French stations.

Temperature fallen fast over the Balkan Peninsula, in Hungary and Poland; little changed elsewhere. Above 80° at La Calle only; above 70° over Algeria and south-eastern Europe generally, much lower elsewhere. Below 60° over all the north-western and extreme northern parts of Europe, and as low as 47° at Stockholm, 48° at Ulealborg, Shields, and Donaghadee. Rising to between 60° and 65° over many parts of the United Kingdom and Norway later, to 70° and more over the southern parts of France and Italy, and to 82° at Perpignan, 93° at Brindisi, but not touching 100° F. even at the Algerian stations.

Wind cyclonic over north-western Europe and the Baltic, anticyclonic elsewhere; Easterly to North-Easterly over northern Europe and Scotland, North-Westerly in Ireland, Westerly over England, South-Westerly to Westerly over Germany and the Baltic Provinces. Very variable and light over south-eastern, southern, and south-western Europe, becoming more Northerly and freshening in the west of our Islands later, and increasing to a strong breeze from the Westward in the eastern parts of the Channel again.

Barometer highest, 29·9 ins. to 30·0 ins. and more over the whole of south-western, southern, and part of south-eastern Europe, and also over Central Russia; 29·6 ins. and more over Lapland. Lowest 29·2 ins. and less over Scotland and the northern part of the North Sea, and about 29·3 ins. over the Gulf of Finland and central parts of the Baltic. Rising decidedly over the United Kingdom later, and the depression over Scotland and North Sea undergoing considerable modification.

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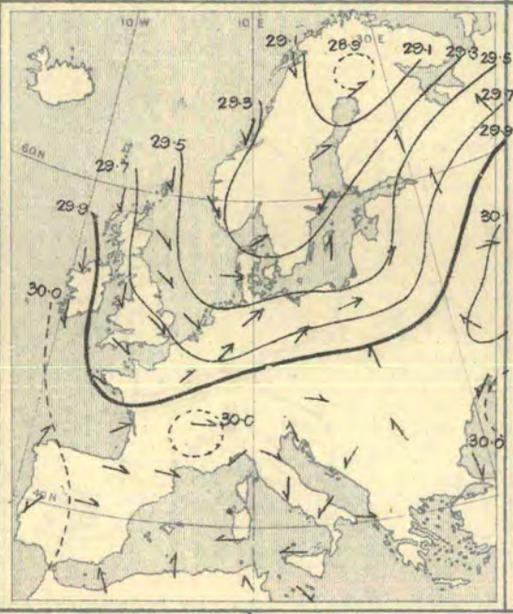
Thursday, 28th August.

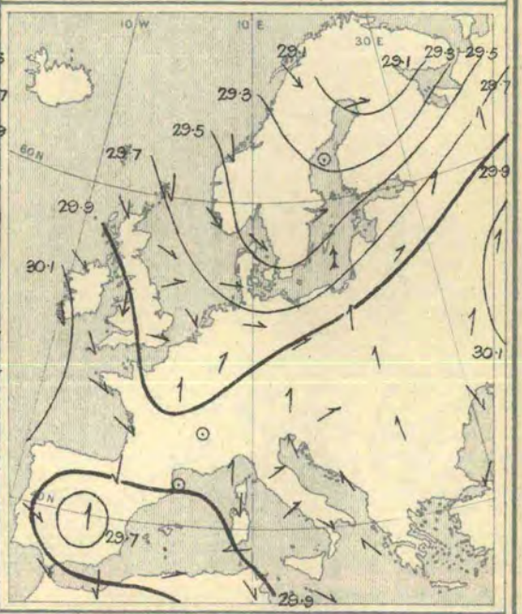
Temperature and Weather. 8 a.m.

Weather fine and bright over south-eastern Europe and the southern and eastern parts of the Mediterranean; still changeable in the west, north-west, and north, with clear skies in some places but rain at several stations. Rain in almost all the latter regions and at Barcelona; subsequently, heavy in several localities; lightning in the south-east of England, but appearance improving slowly as a whole.

Temperature fallen fast over south-eastern and eastern Europe; morning readings exceeding 80° at La Calle, only exceeding 70° at the southern of the Mediterranean stations. Above 60° over some parts of Germany, Austria, and the southern half of France, but much lower elsewhere. As low as 50° at Stornoway and Shields, and 53° at Bodö, Stockholm, Sumburgh Head, Aberdeen, Malin Head, and Loughborough. Rising later to between 60° and 67° over England, Germany, and the north of France, to 70° and more in the south of France, to 80° and more over Italy, and to nearly 100° over Algeria, falling fast in the north and north-east of our Islands towards night.

Barometer and Wind. 8 a.m. and 6 p.m.



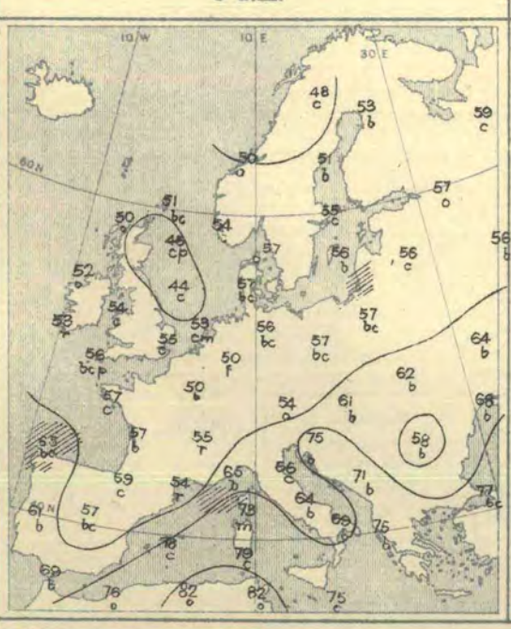


Wind moderate from North in Norway, and from North and North-West over the greater part of the United Kingdom; Westerly in the Channel and north of France (blowing strongly at Cape Gris Nez and over the Netherlands), South-westerly over North Germany, Southerly over the Baltic. Very light and variable over southern Europe. Becoming more Northerly over the British Isles later, and falling light.

Barometer rising over western Europe as a whole, falling in the far north. Highest in morning 29·9 ins. to 30·0 ins. over the western parts of Ireland and the Iberian Peninsula, 29·9 ins. to 30·1 ins. over central Russia and south-eastern Europe. Lowest 29·0 ins. and less over Lapland and about 29·2 ins. over the south of Norway. Continuing to rise over western Europe later, but rise slackening in extreme west of Ireland.

Friday, 29th August.

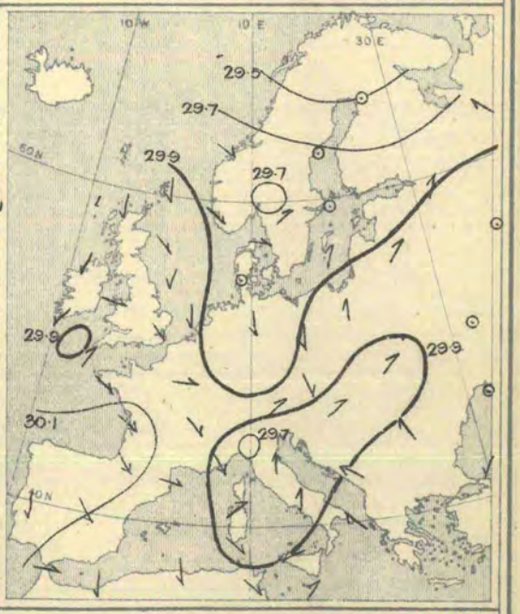
Temperature and Weather. 8 a.m.



Weather fine and bright over Russia, south-eastern Europe, the Mediterranean, and the Iberian Peninsula, as well as over Sweden and some parts of the British Islands; cloudy and changeable elsewhere, with rain in many localities. Rainfall heavy later at Munich and Bodö, and considerable at Wisby, Cuxhaven, Biarritz, and Chassiron; thunderstorms in Holland and the east of England later, as well as over the south-western parts of France.

Temperature in morning still above 80° at some Algerian stations, and exceeding 70° over the southern parts of the Mediterranean; much lower elsewhere. Below 60° over the whole of northern, north-western, and the greater part of Central Europe, and as low as 44° at Shields, 47° at Leith and Le Mans, 48° at Nairn and Bodö. Rising during the day to between 60° and 65° over England and Germany, to a rather higher value over France as a whole, to 77° at Nice, to between 80° and 90° over Italy, and to still higher values over Algeria. Falling rapidly over the British Islands towards night.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind strong from West and South-West in the extreme north and over the Baltic, light from South and South-East over Russia; moderate to light from the North-Westward and Northward over the North Sea, the British Islands, Bay of Biscay and Spain, very variable and light elsewhere. Southerly and variable breezes at our extreme south-western stations later.

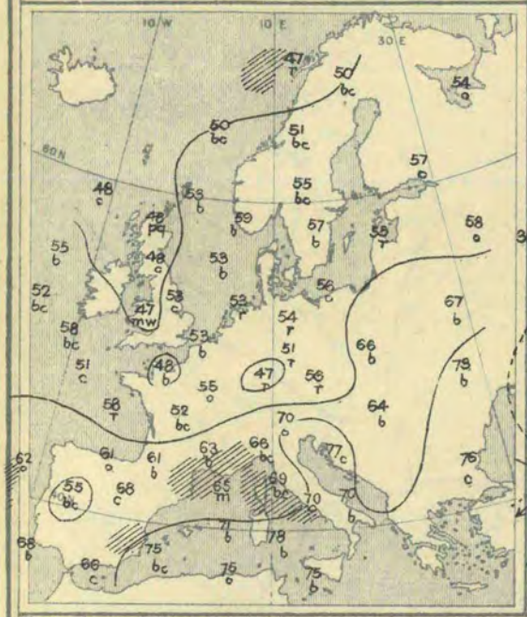
Barometer highest, 30·0 ins. to 30·2 ins. and more over the extreme west and south-west of Europe, as well as over south-eastern Europe and Central Russia. Lowest, 29·2 ins. to 29·5 ins. over Lapland and the north of Scandinavia, and shallow local disturbances prevailing over the North Sea and Holland. New small depression off our south-west coasts moving south-eastwards, later, barometer rising slowly in the north-west and north.

Judd & Co Lte Lith. 73 & 75, Farringdon Rd & Doctors Commons

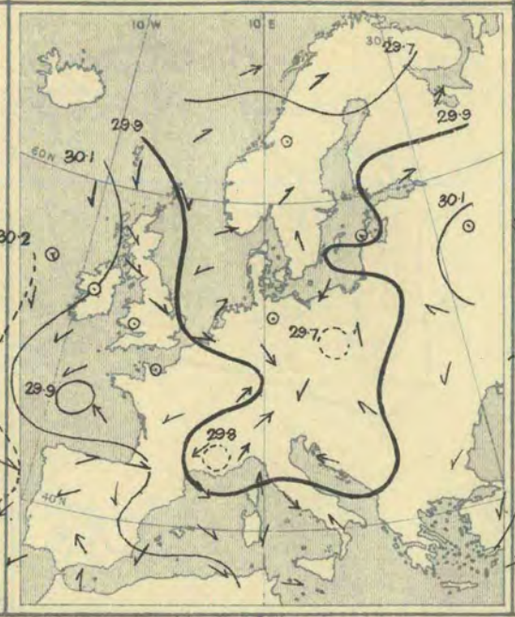
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 30th August.

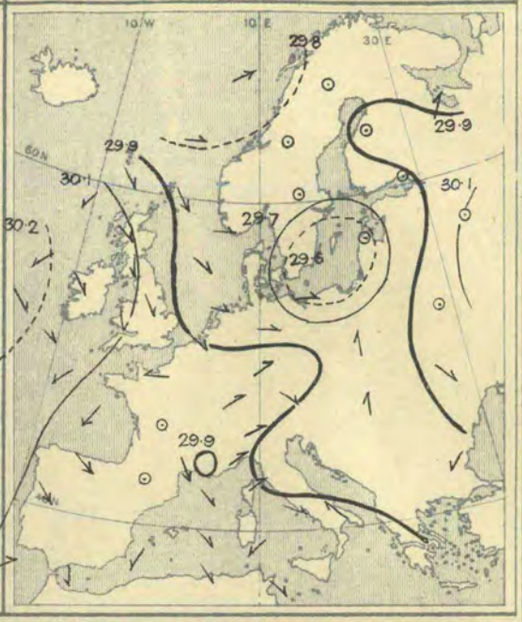
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather in morning fine over the United Kingdom and North Sea generally, as well as over Spain, the southern shores of the Mediterranean, and south-eastern Europe; very cloudy, changeable, and unsettled elsewhere, with rain at Bodö, as well as over Germany and the Baltic Provinces. Rainfall heavy locally in many parts of Europe; fall general and in places heavy over Germany, and weather rough at the Baltic Stations as a whole.

Temperature low for time of year almost everywhere, but especially in the British Islands and north-western Europe. Morning values exceeding 70° on the southern and eastern shores of the Mediterranean and Adriatic and on the shores of the Black Sea. Much lower over the more northern and north-western countries, and as low as 45° at Parsonstown, 47° at Bodö and in London, 48° at Paris, York, Aberdeen, and Sumburgh Head. Rising to very little above 60° over the British Islands and Germany later, to rather higher over France, to 80° and more over Algeria, and to upwards of 90° in some parts of Italy.

Wind light from the Northward at our western stations, moderate to fresh on our east coast Cyclonic circulation of brisk breezes round shallow depressions over the Bay of Biscay and Eastern Prussia, and of gales round another over the Gulf of Genoa. System over Eastern Prussia, moving Northwards later, and causing very rough weather at some Baltic stations. [The newspapers report a "terrible gale" at Helsingfors.]

Barometer, highest 30·0 ins. to 30·2 ins. and more over Spain, the British Islands and neighbouring parts of Atlantic, 30·0 ins. to 30·2 ins. over central and southern Russia; lowest 29·7 ins. and less over Lapland, and between Breslau and Warsaw, 29·8 ins. and less over the Gulf of Genoa, 29·9 ins. and less over the Bay of Biscay. Latter depression moving Eastward later and filling up, that over Poland moving Northwards and growing deeper.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the whole of the week depressions moved from west to east over our more northern coasts to Scandinavia and northern Russia, while during the greater part of the time other disturbances travelled in a similar direction over the Mediterranean and the southern countries. During the first part of the period pressure was relatively high both in the extreme south-west and south-east of our area, but on Wednesday the barometer was temporarily highest over the Mediterranean and Italy. Towards the end of the week pressure became highest off our south-western and western coasts. North-Westerly and Westerly winds generally prevailed in all the western countries, rather variable winds over the more central regions, and Southerly breezes in the eastern parts of our area. In force they varied greatly, and attained the strength of a gale in the English Channel and in different parts of Europe. Showery, thundery weather was very prevalent over the United Kingdom, and a good deal of rain fell in all the western and north-western countries generally, and also, locally, in some of the more central and southern regions. Temperature was very low over our Islands and the greater part of France, but remained fairly high over southern Europe and the Mediterranean.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of the Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
August 9th	Llandudno	73	54	67·7	55·9	61·5	+0·8	137	0	1	0·12	−0·48	?42·2	?40
„ 16th	Newton Reigny	67	45	62·0	51·1	56·2	−1·3	99	0	7	1·66	+0·95	26·9	26
„ 16th	Llandudno	67	50	63·4	53·9	58·4	−2·3	115	0	5	1·43	+0·83	?	?
„ 23rd	Newton Reigny	64	39	60·6	46·6	53·2	−4·0	78	0	6	0·99	+0·27	30·8	30

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 36.] *Third Series.* WEEK ENDING SATURDAY, 6TH SEPTEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid,* £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 212.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	67	35	60·3	48·5	54·1	1 above.	85	+ 5	0	0	1518	+ 57	438	− 72
	1. SCOTLAND, EAST -	74	32	65·4	47·9	56·3	2 above.	100	+ 5	0	0	1807	− 92	485	− 58
	2. ENGLAND, N.E. - -	75	36	65·2	51·3	57·9	2 above.	111	+ 3	0	0	2001	− 29	389	− 93
	3. ENGLAND, EAST -	76	32	66·3	48·0	56·9	2 below.	104	−18	0	0	2249	− 99	468	− 39
	4. MIDLAND COUNTIES	78	33	66·7	48·3	57·1	1 below.	106	−14	0	0	2218	−115	478	− 26
	5. ENGLAND, SOUTH -	78	33	67·2	49·9	58·2	2 below.	113	−16	0	0	2432	− 92	305	− 68
Principal Grazing &c., Districts.	6. SCOTLAND, WEST -	68	31	62·3	50·1	55·9	1 above.	97	− 4	0	0	1939	− 49	325	− 73
	7. ENGLAND, N.W. -	71	35	63·2	52·4	57·5	0 (average)	109	− 1	0	0	2083	− 30	302	− 81
	8. ENGLAND, S.W. -	83	33	65·3	51·5	58·0	0 (average)	112	− 6	0	0	2289	−102	245	+ 12
	9. IRELAND, NORTH -	71	32	63·6	52·2	57·6	1 above.	109	+ 7	0	0	2015*	− 58	294	− 56
	10. IRELAND, SOUTH -	75	36	65·2	53·9	59·3	1 above.	121	+12	0	0	2295	− 44	224	− 15
	— CHANNEL ISLANDS -	70	43	64·3	51·9	57·8	3 below.	111	−17	0	0	2542	− 22	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 212).	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	4	5	6 less.	176	+25	33·4	+ 0·3	24	25	833	−153	25	− 4
	1. SCOTLAND, EAST -	3	4	4 less.	151	+21	21·4	+ 0·2	39	41	1004	−135	30	− 3
	2. ENGLAND, N.E. - -	4	5	1 less.	129	+ 3	17·4	− 0·8	34	36	960	− 72	29	− 2
	3. ENGLAND, EAST -	2	2	4 less.	132	+ 4	17·1	+ 0·4	32	35	1195*	− 57	36	− 2
	4. MIDLAND COUNTIES-	2	1	6 less.	126	+ 1	15·9	− 3·5	28	30	1044	− 73	31	− 2
	5. ENGLAND, SOUTH -	1	less than ½	6 less.	125	+ 5	19·6	+ 1·8	35	38	1129	− 73	34	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	5	12	4 more.	154	+13	33·7	− 0·5	27	29	1066	− 24	32	0
	7. ENGLAND, N.W. -	5	6	3 less.	147	+17	22·9	+ 0·8	23	24	999	− 89	30	− 2
	8. ENGLAND, S.W. - -	3	1	9 less.	148	+11	25·7	− 2·1	26	28	1163	−137	35	− 4
	9. IRELAND, NORTH -	6	12	4 more.	168	+11	23·3	− 0·4	16	17	1012	+ 5	30	0
	10. IRELAND, SOUTH -	4	3	6 less.	161	+14	27·7	+ 1·3	21	22	1088	− 63	33	− 2
	— CHANNEL ISLANDS -	1	less than ½	7 less.	146	− 1	22·9	+ 2·5	41	45	1400	−132	43	− 3

General Remarks.

Weather continued unsettled and rainy in the extreme north-western parts of the Kingdom; elsewhere it was generally fair, and much drier than of late; until towards the close of the week, however, a good deal of cloud was prevalent.

Temperature continued low during the earlier days of the period, when minima ranging from 31° in "Scotland W." to 36° in "England N.E." and "Ireland S.," and to 43° in the "Channel Islands," were recorded. It subsequently rose very considerably and became high for the time of year, the maxima registered on Saturday varying from 67° to 74° in Scotland, from 71° to 75° in Ireland, and 71° to 78° over the greater part of England, while 83° was recorded in "England S.W." (at Llandovery). The average value for the week slightly exceeded the normal in Scotland, Ireland, and the north-east of England; in the other English districts it was either rather below or about equal to the mean.

Rainfall has been more than the mean in "Scotland W." and "Ireland N.," but less in all other districts. In most of the English districts the fall has been very slight.

Bright Sunshine has been less prevalent generally than it was last week, the percentage of the possible amount of duration having ranged from 17 in "Ireland N." and 22 in "Ireland S." to 38 in "England S.," 41 in "Scotland E.," and to 45 in the "Channel Islands."

Barometer and Wind.—During this period an area of high pressure travelled gradually from the southward over our Islands, and at the close of the period the centre covered Ireland and the west of England. No depression appeared immediately over us, but during the earlier days of the week disturbances, moving north-eastwards, affected our western and north-western coasts. Light winds between South-West and West were most general over the United Kingdom, but at the end of the period they were drawing into North-West over England.

* This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 211 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head 𝔖	58	41	56·7	48·7	52·5	−0·3	74	0	3	0·29	−0·49	*	*
	Stornoway 𝔖	61	38	59·6	48·3	53·7	+0·9	82	0	5	0·12	−0·76	21·5	23
	Wick 𝔖	64	40	61·1	48·4	54·5	+0·8	88	0	3	0·18	−0·40	*	*
	Lairg 𝔖	65	35	61·8	45·9	53·5	+0·6	81	0	4	0·11	−0·59	*	*
	Glencarron 𝔖	62	37	59·0	47·7	53·1	+0·3	78	0	5	0·94†	−0·57	?	?
	Fort Augustus 𝔖	67	39	63·4	50·0	56·4	+1·8	101	0	4	0·28†	?	26·1	27
	Fort William 𝔖	64	37	60·2	50·7	55·2	+0·2	92	0	4	1·28†	−0·24	24·0	25
1. SCOTLAND, E.	Nairn 𝔖	69	39	65·4	47·4	56·0	+1·4	98	0	2	0·12	−0·51	*	*
	Aberdeen 𝔖	74	38	65·3	48·1	56·3	+1·6	100	0	3	0·16	−0·59	42·6	45
	Braemar 𝔖	67	32	62·7	44·8	53·3	+1·8	79	0	3	0·43	−0·48	43·8‡	46‡
	Ochtertyre 𝔖	74	41	68·4	47·7	57·6	+3·1	109	0	3	0·69	−0·16	*	*
	Leith 𝔖	72	43	66·4	50·7	58·2	+2·0	113	0	2	0·44	−0·15	? ‡	? ‡
	Marchmont 𝔖	69	39	64·4	48·6	56·1	+2·5	99	0	4	0·53	−0·30	31·8	33
2. ENGLAND, N.E.	Alnwick Castle	68	42	64·0	52·4	57·9	+3·0	111	0	4	0·56	−0·14	*	*
	Durham	73	36	67·5	50·2	58·4	+2·7	115	0	4	0·62	+0·01	35·5	38
	Shields	69	40	66·0	50·3	57·8	+2·1	111	0	4	0·62	+0·01	*	*
	Scarborough 𝔐	68	41	64·4	52·1	58·0	+1·2	112	0	5	0·44	−0·21	34·9‡	37‡
	York	75	37	66·7	49·6	57·7	+0·7	110	0	4	0·62	0·00	30·8	33
	Spurn Head	67	46	63·1	53·0	57·8	+0·5	111	0	3	0·15	?	*	*
3. ENGLAND, E.	Hillington 𝔐	73	32	66·4	46·1	55·8	−2·3	97	0	2	0·25	−0·40	28·4‖	31‖
	Yarmouth	67	41	63·1	50·9	56·7	−2·6	103	0	3	0·34	−0·28	*	*
	Geldeston	71	38	66·3	49·4	57·4	−1·7	108	0	2	0·17	−0·35	36·7	39
	Cambridge	76	35	69·6	47·0	57·8	−2·0	111	0	1	0·03	−0·52	29·4	32
	Rothamsted	74	34	67·7	46·8	56·8	−2·5	104	0	0	0·01§	−0·62	34·0	37
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	72	35	65·0	49·1	56·7	−1·4	103	0	3	0·30	−0·31	26·4‡	23‡
	Loughborough	78	36	69·6	49·0	58·8	+0·4	118	0	2	0·08	−0·58	27·5‡	30‡
	Cheadle 𝔐	70	39	64·5	49·5	56·6	−0·9	102	0	3	0·08	−0·78	*	*
	Churchstoke 𝔐	72	35	65·8	49·9	57·5	−0·1	109	0	4	0·06	−0·60	28·2	30
	Hereford 𝔐	75	35	68·3	49·1	58·2	−0·4	113	0	1	0·01	−0·67	*	*
	Cirencester	72	33	66·0	44·6	55·0	−3·9	91	0	1	0·03	−0·75	25·5	27
	Oxford	75	36	67·6	47·1	56·9	−2·7	104	0	2	0·02	−0·61	31·2	34
5. ENGLAND, S.	London	76	38	69·3	48·6	58·5	−2·1	116	0	1	0·01	−0·57	27·7‡	30‡
	Strathfield Turgiss 𝔐	74	33	68·1	44·7	56·2	−3·6	99	0	1	0·03	−0·56	*	*
	Dungeness	72	39	66·6	51·9	58·9	−1·0	118	0	1	0·02	−0·56	41·2‡	44‡
	Hastings (St. Leonards)	72	44	66·3	53·0	59·3	−0·5	121	0	1	0·03	−0·60	40·5	44
	Southampton	78	39	69·1	49·3	58·7	−1·0	117	0	0	—	−0·70	38·4	41
	Hurst Castle	71	44	63·6	52·0	59·0	−0·8	119	0	1	0·01	−0·69	*	*
	Stowell 𝔐	72	39	64·3	49·6	56·6	−2·1	102	0	2	0·06	?	27·5‡	30‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	37	62·5	48·2	55·0	−0·8	91	0	6	1·03†	−0·37	*	*
	Glasgow	66	41	62·1	50·8	56·2	+1·0	99	0	5	1·52	+0·57	27·0	28
	Ardrossan	64	42	60·7	52·0	56·1	+0·6	99	0	4	1·71	+0·80	*	*
	Glenlee 𝔖	68	31	63·0	48·2	55·2	+1·4	92	0	7	0·92†	−0·23	*	*
	Douglas (Isle of Man)	67	43	63·0	51·1	56·8	+0·9	104	0	5	0·66	−0·22	27·5	29
7. ENGLAND, N.W.	Newton Reigny	70	35	64·0	49·1	56·2	+0·6	99	0	4	0·44	−0·34	32·2	34
	Stonyhurst	71	39	62·2	50·7	56·2	−1·0	99		5	1·08	−0·05	25·3	27
	Blackpool 𝔐	65	?	61·9	?	?	?	?	?	6	0·70	−0·07	15·4	16
	Manchester	67	39	63·5	50·9	56·9	−1·2	104	0	4	0·52	−0·38	*	*
	Liverpool Obsy. (Bidston)	68	44	63·6	54·1	58·6	+0·9	116	0	4	0·29	−0·47	*	*
	Llandudno 𝔐	67	46	63·7	55·0	59·1	0·0	120	0	5	0·48	−0·22	17·5	19
	Holyhead	65	48	62·3	54·4	58·2	−0·1	113	0	3	0·51	−0·21	*	*
8. ENGLAND, S.W.	Llandovery	83	33	69·1	49·4	58·8	+0·7	118	0	6	0·37	−0·82	*	*
	Pembroke	69	48	61·1	54·3	57·5	+1·0	109	0	5	0·06	−0·73	21·7	23
	Arlington (N. Devon)	71	38	63·3	50·0	56·3	−1·1	100	0	4	0·35	−0·90	*	*
	Cullompton 𝔐	75	34	67·4	47·5	57·0	−2·3	105	0	3	0·03	−0·77	21·6	23
	Falmouth	70	46	64·2	52·8	58·2	−1·4	113	0	1	0·01	−1·02	34·2	37
	Plymouth	75	42	67·8	53·3	60·2	−0·2	127	0	0	—	−0·87	26·0	28
	Prawle Point	73	46	64·3	52·9	58·3	+0·9	114	0	0	—	?	*	*
9 IRELAND, N.	Malin Head	62	50	60·4	53·3	56·7	+1·5	103	0	6	1·88	?	*	*
	Londonderry	71	47	64·9	52·4	58·4	+2·2	115	0	4	1·16	+0·28	*	*
	Mullaghmore	64	44	62·4	52·9	57·4	+0·2	108	0	6	1·70	+0·71	*	*
	Belmullet	66	51	61·1	54·3	57·5	+1·4	109	0	6	2·09	?	*	*
	Markree Castle	68	32	65·6	49·5	57·2	+0·3	106	0	6	0·77	−0·01	16·0	17
	Brookeborough	67	35	64·1	49·8	56·6	−0·4	102	0	6	1·07	?	*	*
	Armagh	68	38	65·2	51·6	58·1	+1·1	113	0	6	0·87	+0·19	16·0	17
	Donaghadee	70	48	63·3	54·4	58·6	+2·3	116	0	6	0·55	−0·17	*	*
	Edgeworthstown	69	37	65·4	51·7	58·2	+0·6	113	0	6	0·64	−0·15	*	*
10. IRELAND, S.	Dublin	69	42	65·6	54·8	59·9	+2·6	125	0	3	0·24	−0·37	22·9	25
	Parsonstown	75	36	65·9	51·6	58·4	+0·6	115	0	6	0·48	−0·33	20·5	22
	Kilkenny	71	42	66·9	54·6	60·5	+2·3	130	0	2	0·07	−0·70	*	*
	Waterford	72	42	67·2	52·4	59·4	+1·7	122	0	2	0·04	−0·84	*	*
	Roche's Point	66	48	63·3	53·3	58·1	−0·2	113	0	4	0·31	−0·61	*	*
	Valencia	67	42	62·6	53·9	58·0	−0·1	112	0	6	0·59	−0·51	18·8	20
	Killarney	69	38	65·0	54·2	59·3	+1·1	121	0	3	0·18	?	*	*
	Foynes	69	52	65·0	56·5	60·6	+2·8	130	0	4	0·33	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	64	52	63·3	54·0	58·4	−1·8	115	0	1	0·02	−0·69	*	*
	Jersey	70	43	65·3	49·7	57·1	−4·1	106	0	0	—	−0·66	41·2	45

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked 𝔖 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

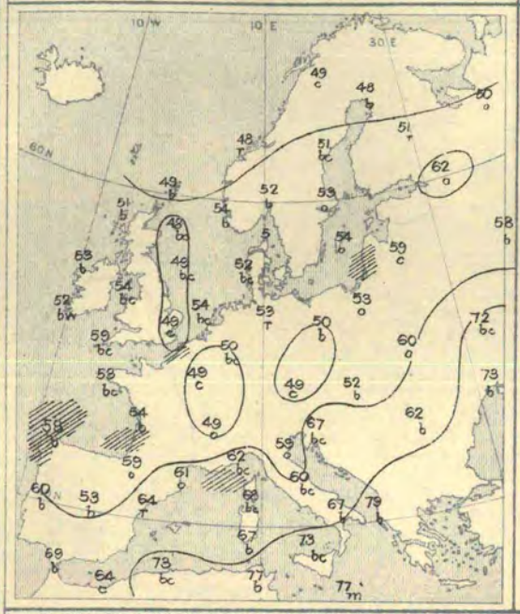
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ Dew.

‖ The corresponding values in last week's Report should be "54·2," "56."

Sunday, 31st August.

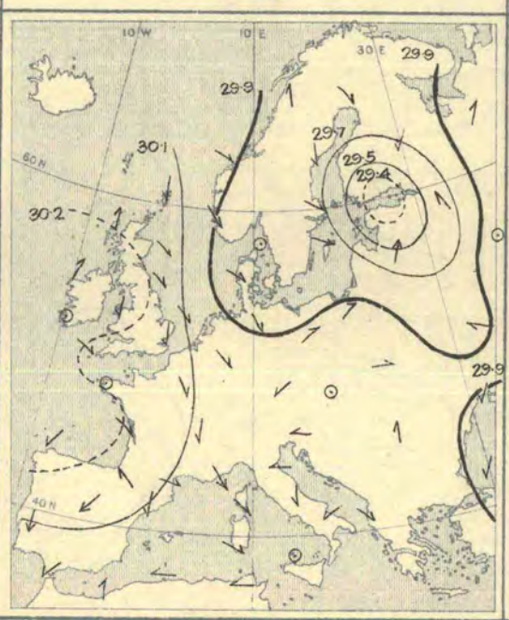
Temperature and Weather. 8 a.m.

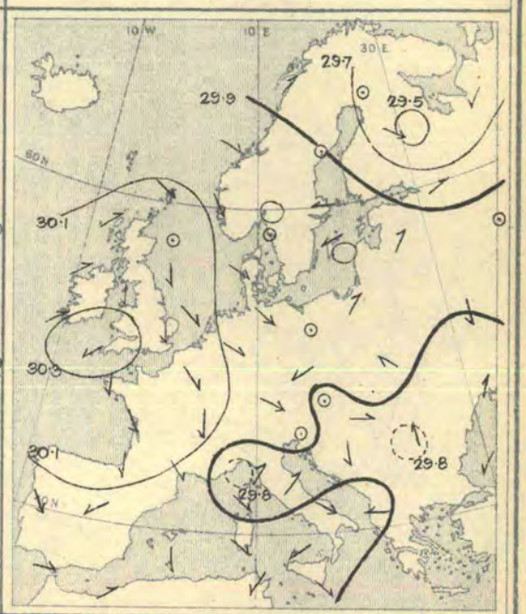


Weather fine and bright over the British Islands and western Europe generally, as well as over the southern and eastern parts of the Mediterranean and central parts of Russia; cloudy and very unsettled over northern Europe, especially over Finland, the south-east of Sweden, and the Baltic Provinces. Heavy rain falling subsequently over southern Germany and the south-east of France, smaller quantities over Scandinavia, and rainy unsettled conditions setting in on our own north-western coasts.

Temperature still very low for the time of year in most places; morning readings exceeding 70° on the southern and south-eastern coasts of the Mediterranean, and on the shores of the Black Sea, exceeding 60° locally at St. Petersburg; much lower over western and northern Europe, and as low as 43° at Parsonstown, 47° at Nairn, Le Mans, and Uleaborg, and 49° at Bodö, Sumburgh Head, York, London, Paris, and Lyons, 50° at Brussels and Berlin. Rising during day to between 58° and 65° over Great Britain, to upwards of 70° in the south of France, to 80° and more over northern and eastern Italy, to 93° at Brindisi, and also in some parts of Algeria.

Barometer and Wind. 8 a.m. and 6 p.m.



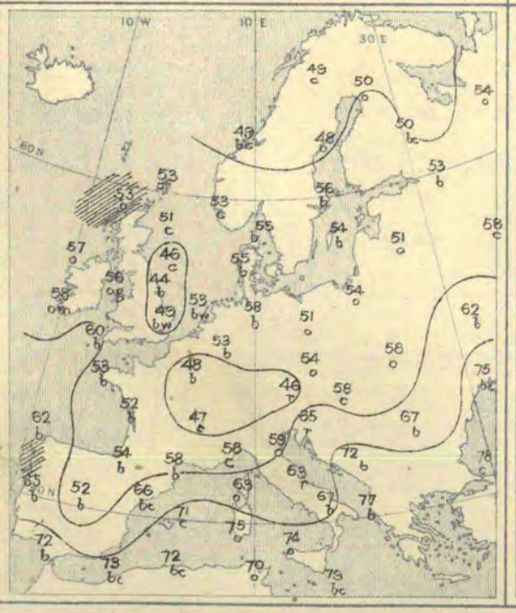


Wind very light over the British Islands and western Europe, and mainly North-Westerly to Northerly in direction, calm over Ireland; cyclonic circulation of strong winds prevalent over the Baltic and Finland, North-Easterly to North-Westerly breezes over southern Europe, variable airs over the central countries and in central Russia. Light South-Westerly breezes setting in over Scotland and Ireland later.

Barometer highest 30·1 ins. to nearly 30·3 ins. over the British Islands, France, Spain, and adjacent parts of the Atlantic; exceeding 30·0 ins. over northern and central Russia also. Lowest about 29·3 ins. in the centre of a deep depression near Helsingfors, and below 29·9 ins. in a shallow disturbance over the Black Sea. Beginning to fall in the north-western parts of the British Islands later, but rise continuing over England and France. Slight fall commencing in the west during day, and new depressions forming over Gulf of Genoa. The deep depression near Helsingfors filling up and passing away in north-easterly direction.

Monday, 1st September.

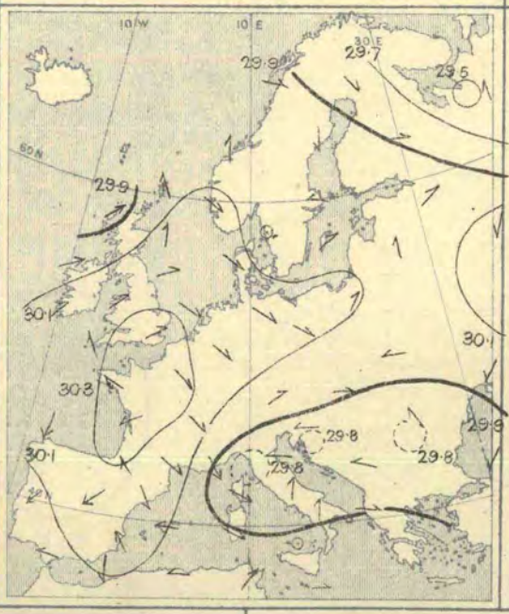
Temperature and Weather. 8 a.m.

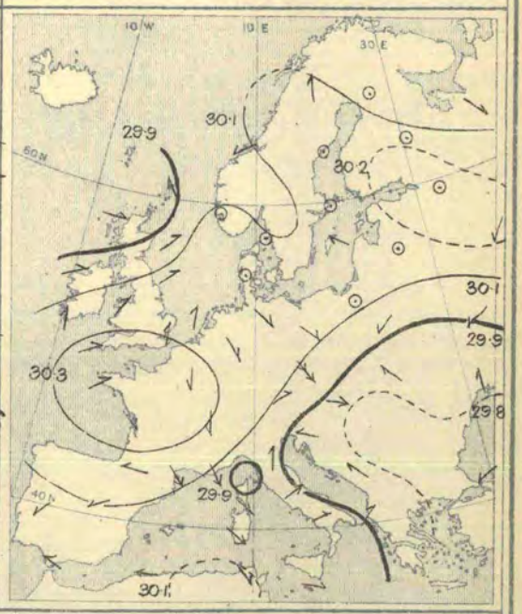


Weather fine and bright over England, France, Spain, and Algeria, as well as over south-eastern Europe, the Baltic, and North Sea. Dull and rainy over Italy, Switzerland, south-east of France, and south Germany. Becoming rainy over the western and northern parts of our Islands also. Rainfall considerable at the Irish stations later, very heavy over south Germany (2·2 ins. at Munich), and in some parts of Austria and Italy.

Temperature continuing low in most places, but rising in Ireland and Scotland. Morning readings exceeding 70° over southern Russia, the south-eastern parts of the Mediterranean, and some of the Algerian stations, much lower elsewhere. As low as 43° at Le Mans, 44° at York and Loughborough, 46° at Munich, 47° at Lyons, 48° at Paris, 49° in London. Rising to between 60° and 67° over England later, to 70° and more in the south of France and Italy, to 84° at Lisbon, and to 99° in some parts of Algeria, but not exceeding 48° at Munich all day.

Barometer and Wind. 8 a.m. and 6 p.m.





Wind mainly anticyclonic over western Europe, cyclonic in the north-west, north, and south-east. North-Westerly to Northerly over north Germany and the east of France, Easterly and South-Easterly over the Bay of Biscay, Southerly and South-Westerly over Ireland and Scotland (strong at Malin Head and Stornoway), Northerly over the Gulf of Bothnia. South-Westerly winds becoming general over the United Kingdom later.

Barometer highest 30·1 ins. to nearly 30·4 ins. in an anticyclone of somewhat irregular form covering nearly the whole of western Europe, lowest 29·5 ins. over the White Sea, 29·8 ins. and less in several shallow disturbances lying over south-eastern Europe and Gulf of Genoa, and 29·9 ins. and less over the extreme north-west of our Islands. Falling slightly over the United Kingdom during day, but gradients not becoming steep. Very little change later.

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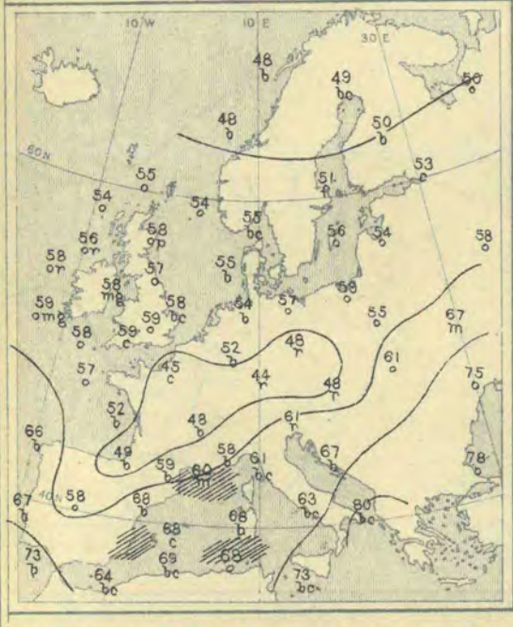
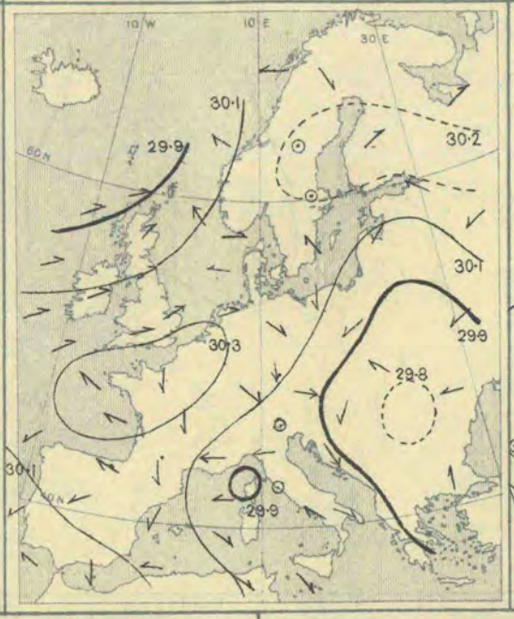
Tuesday, 2nd September.

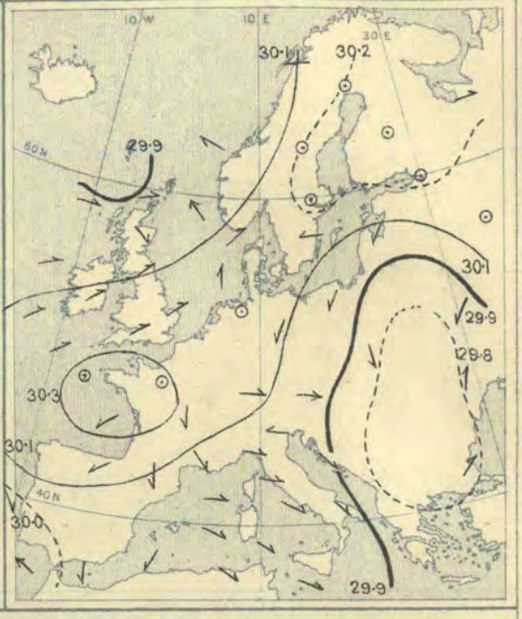
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over France, Spain, at most of the Mediterranean stations, as well as in some parts of Scandinavia. Dull and rainy in the west of Ireland, and also over Austria and Bavaria, fair but cloudy over England and Scotland. Rain falling in most parts of the United Kingdom later, heavily at some of the Irish stations as well as in south Germany, over Austria, and at Odessa.

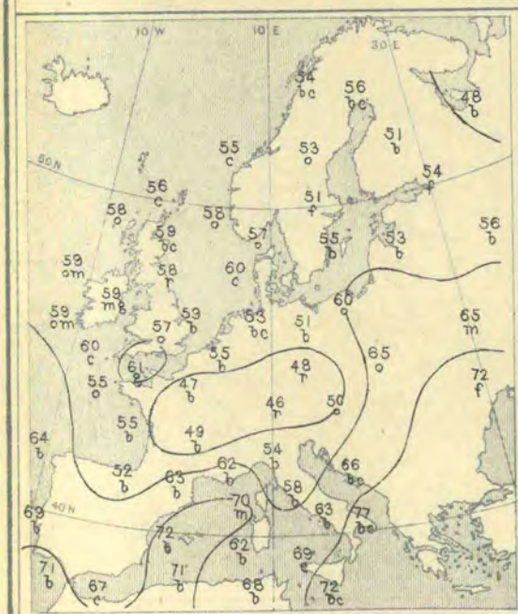
Temperature risen decidedly over the United Kingdom, no great change reported elsewhere. Highest morning reading 80° at Brindisi, exceeding 70° over southern Russia and also at San Fernando and Constantinople, and exceeding 60° over the Mediterranean. As low as 44° at Munich, 45° at Paris, 46° at Münster and Le Mans. Rising to between 60° and 69° over Great Britain later, and succeeding night less cold than of late. Rising to between 70° and 80° over Italy, to 82° at Lisbon, and to 90° and more in some parts of Algeria.

Wind light or moderate from South-West over the United Kingdom, South-Easterly to Easterly in Norway, Easterly over the Bay of Biscay, Spain, and Algeria, but Northerly and North-Westerly in Austria and Germany. Over Italy and the southern parts of Russia light variable breezes prevailed. Wind becoming more Westerly over the United Kingdom later.

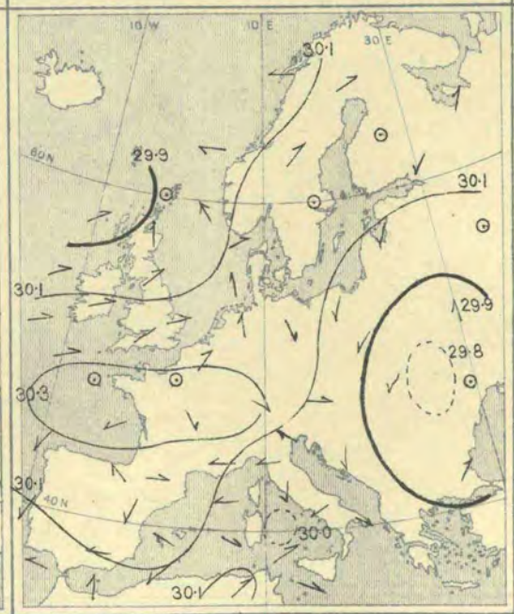
Barometer highest, 30·2 ins. to 30·3 ins. and more, in an anticyclone lying over France, Germany, and the southern parts of our Islands, 30·2 ins. and more in another anticyclone covering the Baltic and north-western Russia, lowest 29·8 ins. and less, in a large shallow disturbance lying over south-eastern Europe, and 29·9 ins. and less off the north-west coasts of Scotland. Barometer rising slightly over the United Kingdom during day, but falling a little over France and Norway.

Wednesday, 3rd September.

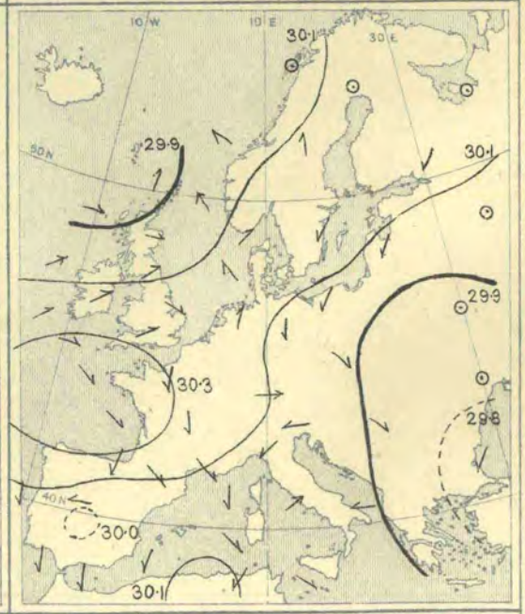
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-western and southern Europe and on the shores of the Mediterranean, as well as over the greater portion of Russia and in many parts of north Germany; cloudy and unsettled elsewhere. Rain falling in several parts of the United Kingdom, and at the Austrian and south German stations. Rainfall considerable over the north-western parts of Ireland later, and in the Netherlands; heavy at Breslau, and very considerable over Austria and south Germany.

Temperature very low for time of year over Germany, Austria, Switzerland, and the south-east of France, slightly above the average in British Islands and neighbourhood. Morning readings exceeding 70° on southern shores of Mediterranean and also in the south of Russia, exceeding 60° in several parts of United Kingdom, much lower over central Europe, 43° at Berne, 46° at Munich and Le Mans, 47° at Paris and Wiesbaden, 48° at Prague, 49° at Lyons; below 50° over the north of Russia also. Rising to between 60° and 70° over England and the east of Ireland later, and to between 70° and 80° at Aberdeen, Perpignan, Lisbon, and over Italy, but not exceeding 48° at Munich, 52° at Vienna, and 55° at Berne and Breslau all day.

Wind light to moderate from between South and West over the United Kingdom, Southerly in Sweden, South-Easterly to Easterly over Norway; very variable elsewhere. Mainly Northerly over Germany and Austria, and Easterly on the northern shores of the Mediterranean, as well as over the Bay of Biscay. Very fresh from the Westward over Austria later, and shifting to North-West on the west coast of France.

Barometer highest, 30·2 ins. to 30·3 ins. and more, in an anticyclone lying over the Bay of Biscay, France, western Germany, and the south of England, and exceeding 30·2 ins. in a band stretching north-eastwards across the south of Sweden and Gulf of Bothnia to Finland. Lowest, 29·9 ins. and less, over the north-west of Scotland and in a large depression over south-eastern Europe, and about 30·0 ins. and less off the west of Norway as well as in a small "secondary" lying over the Mediterranean. Low pressure area off the north-west of Scotland moving north-eastwards later, that over Hungary moving south-eastwards towards the Black Sea.

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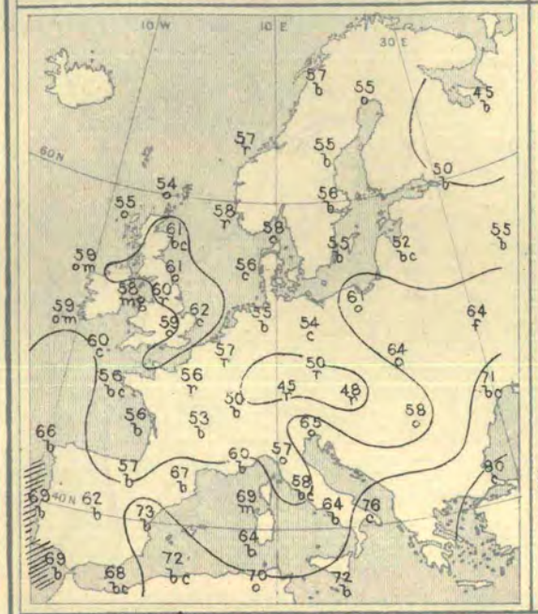
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 4th September.

Temperature and Weather.

8 a.m.

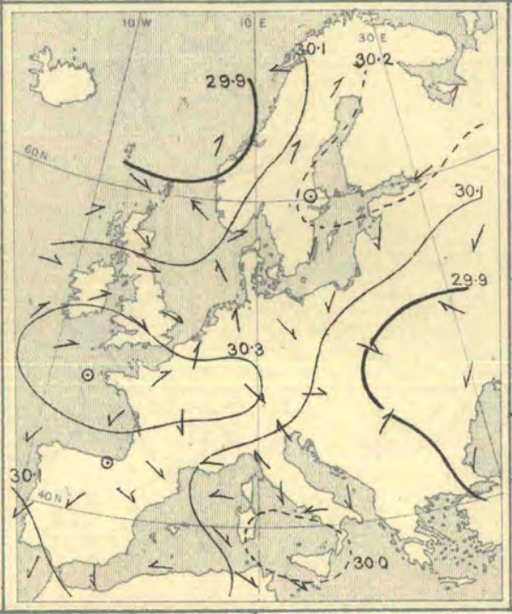


Weather in morning fine and bright over the Iberian Peninsula and southern parts of France, also over Russia, Finland, and the Baltic; cloudy elsewhere; dull and close over the British Islands, with rain in several places; very dull, rainy, and unsettled over Austria and south Germany. Rain falling later over Ireland, the greater part of England, the north-east of France, and the north of Norway, but amounts reported not large; further fall of half-an-inch at Munich [making nearly 5 ins. since commencement of month]. Fall in Austria less large than of late.

Temperature still very low over central Europe, and especially over south Germany. Morning readings as low as (1) 45° at Munich, 48° at Vienna, 50° at Prague and Belfort; (2) 45° at Archangel, 48° at Uleaborg, 5?° at St. Petersburg; as high as 70° and more in the south of Russia and the southern shores of the Mediterranean, and exceeding 60° in several parts of the British Islands. Rising later to between 67° and 73° over the inland parts of Great Britain, and to between 70° and 80° in the southern and south-western parts of France and in Italy, to 84° at Brindisi, and to upwards of 90° over central Algeria.

Barometer and Wind.

8 a.m.



6 p.m.

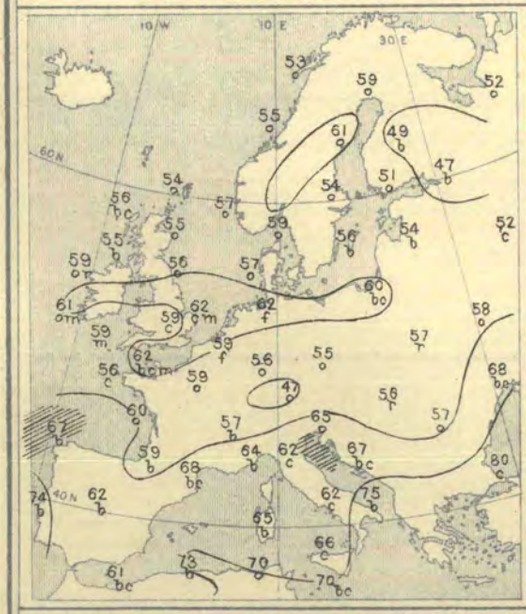
Wind light to moderate from South-West over Ireland and the west of Scotland, Westerly to North-Westerly over England and the east of Scotland, Southerly and South-Easterly on the eastern shores of the North Sea and in Norway. Northerly breezes prevalent over the Baltic Provinces and north Germany, and North-Westerly to Westerly in Austria and Hungary; very variable light breezes elsewhere. Becoming lighter and more variable at the British and Irish stations later, and Northerly current apparently dying out over central Europe.

Barometer highest, 30·2 ins. to 30·4 ins., in a large anticyclone of irregular form covering the greater part of Ireland, England, Bay of Biscay, France, and Germany; exceeding 30·2 ins. over some parts of the Baltic, Finland, and the north of Russia. Lowest, 29·9 ins. and less, in large shallow disturbances lying (1) off the Norwegian coasts and (2) over southern Russia, the Black Sea, and Hungary; rather below 30·0 ins. in a third system lying over Sicily and the neighbouring parts of the Mediterranean. Rising over greater part of Europe later and readings becoming more uniform.

Friday, 5th September.

Temperature and Weather.

8 a.m.



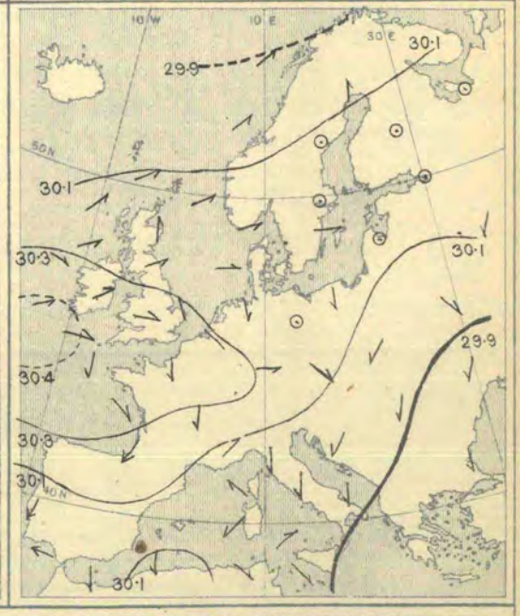
Weather fine and bright over the Spanish Peninsula, Algeria, and the south of France, also over southern Russia, north Germany, the Baltic Provinces, and Finland; cloudy or overcast over north-western Europe, Germany, and Austria. Rainy over Hungary and at several stations in the western parts of the British Islands later, and a heavy fall at Palermo; rainfall in Austria decreasing. Continuing dull and close over the United Kingdom during day, with rain at times in the west, and thunder at Roche's Point.

Temperature low over central Europe, high over the British Islands; morning readings exceeding 70° at many of the Mediterranean stations, and touching 80° at Constantinople; ranging from 55° to 64° over the British Islands, but as low as (1) 47° at St. Petersburg, 49° at Kuopio, 51° at Helsingfors, 52° at Archangel and Moscow, and (2) 47° at Munich, 50° at Belfort, 52° at Berlin, 54° at Breslau and Vienna. Rising to between 70° and 78° over the inland parts of Great Britain, the south-western and southern parts of France, and over Italy later, to 80° and more over Algeria, and to 93° at Lisbon.

Barometer and Wind.

8 a.m.

6 p.m.



Wind light to moderate from the Southward in Ireland and the west of Scotland, Southerly to South-Westerly in Scandinavia, and mainly North-Easterly in southern Europe and on the shores of the Bay of Biscay; very light and variable elsewhere. Veering Westward in Ireland and Scotland later, but no other change of importance noted.

Barometer highest, 30·2 ins. to 30·4 ins., in a large anticyclone of irregular form lying over western Europe and Germany; 30·2 ins. to 30·3 ins. over the Gulf of Finland and neighbouring regions. Lowest, 29·9 ins. and less, over the Baltic and southern Russia, as well as in some shallow disturbances lying near Lesina, Sardinia, and to the southward of Malta; 30·0 ins. and less over Finmark, and also near the Straits of Gibraltar. Rising over the United Kingdom later, falling in Lapland and Norway.

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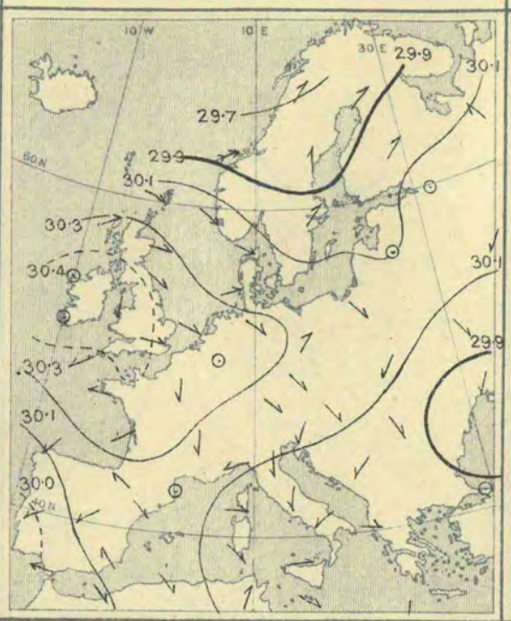
II.—SUMMARY OF WEATHER OVER EUROPE.

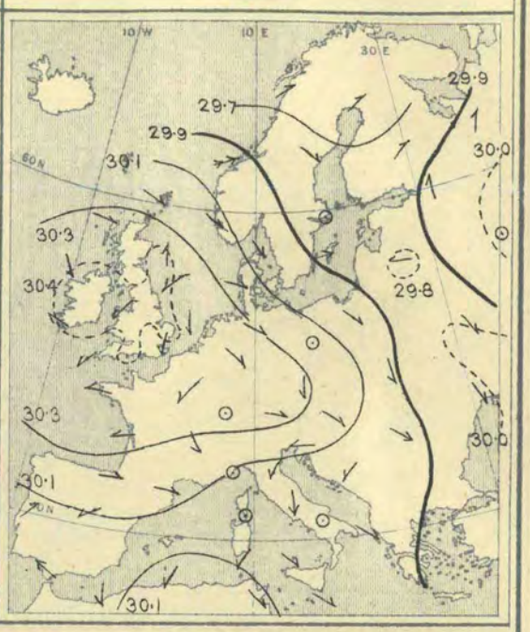
Saturday, 6th September.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine or fair, generally, over the British Islands, western and southern Europe, but temporarily dull, hazy, or foggy at first in many places; bright over Russia, very rainy in the north of Norway, dull over south-eastern Europe, with rain in places. Considerable rain over Scandinavia and Finland later, and sharp local falls in some parts of Germany, Austria, and the south of Russia.

Temperature in morning exceeding 70° on the Portuguese and Spanish coasts, and at a few of the Mediterranean stations only, much lower elsewhere; as low as (1) 43° at Archangel, 47° at Moscow, 51° at Riga, St. Petersburgh, and Bodö; (2) 50° at Munich, 51° at Breslau, 54° at Cracow, and 55° at Lyons; ranging between 55° and 63° over the British Islands. Rising to between 70° and 75° over England later, to a rather higher level over Italy, and to nearly 90° over the inland parts of Algeria.

Wind light and anticyclonic over the British Islands and France; strong North-Westerly and Westerly on the eastern shores of the North Sea, and blowing a gale from West-South-West at Christiansund. Moderate Southerly over the Gulf of Bothnia and the Baltic, very variable and light over central and southern Europe. Very little change later.

Barometer highest, 30·2 ins. to 30·4 ins. and more, in an anticyclone covering the British Islands, France, and the North Sea (centre over Ireland). Lowest, 29·7 ins. and less, in a depression off the north-west of Norway; 29·8 ins. and less in another over the Black Sea and southern Russia; 30·0 ins. and less over the south-eastern part of the Mediterranean. Depression in far north advancing over Lapland later, that over Black Sea and southern Russia undergoing some modifications.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week anticyclonic conditions have prevailed almost continuously over the British Isles, France, and the western part of north Germany. Two series of low-pressure areas have been observed simultaneously, one passing over the extreme north-western and northern parts of Europe, the other lying over south-eastern Europe, and at times spreading thence in a westerly direction to the Gulf of Genoa and Switzerland. The weather has consequently varied greatly in different regions—the northern parts of Europe have been marked by strong South-Westerly and Westerly winds, with frequent and considerable falls of rain, while over south-eastern Europe, south Germany, and at times over Switzerland, there have been heavy falls of rain, causing deep floods in many parts of Austria. At the close of the week these low-pressure systems were filling up and the finer anticyclonic conditions were becoming more general.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Parts I. and II.—Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June, *price* 4d. *each.*

SUPPLEMENT.—Monthly Summary of Observations, January, February, and March, *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 37.] *Third Series.* WEEK ENDING SATURDAY, 13TH SEPTEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 218.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	78	36	63·8	48·0	55·5	3 above.	95	+22	0	0	1613	+ 78	438	− 72
	1. SCOTLAND, EAST -	79	37	67·9	47·4	57·1	4 above.	106	+19	0	0	1913	− 70	485	− 58
	2. ENGLAND, N.E. - -	76	44	67·4	50·4	58·5	3 above.	116	+17	0	0	2117	− 6	389	− 93
	3. ENGLAND, EAST -	78	41	69·9	47·3	58·1	1 above.	113	+ 3	0	0	2362	− 93	468	− 39
	4. MIDLAND COUNTIES	81	41	70·7	47·3	58·4	2 above.	115	0	0	0	2333	−100	478	− 26
	5. ENGLAND, SOUTH -	78	43	70·1	49·9	59·5	1 above.	123	+ 3	0	0	2555	− 82	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	72	37	64·4	48·7	56·2	2 above.	99	+ 6	0	0	2038	− 41	325	− 73
	7. ENGLAND, N.W. -	77	42	66 3	50·7	58·2	2 above.	113	+12	0	0	2199	− 13	302	− 81
	8. ENGLAND, S.W. -	80	38	68·7	50·8	59·3	2 above.	121	+10	0	0	2410	− 87	245	+ 12
	9. IRELAND, NORTH -	76	39	65·3	51·4	58·0	3 above.	112	+18	0	0	2127	− 34	294	− 56
	10. IRELAND, SOUTH -	72	43	65·9	51·1	58·2	1 above.	113	+11	0	0	2408	− 26	224	− 15
	— CHANNEL ISLANDS -	77	52	67·4	55·7	61·2	1 above.	134	+12	0	0	2676	− 6	71	− 22

Rainfall.

	DISTRICTS. (See p. 218).	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	4	3	5 less.	180	+25	33·7	− 0·2
	1. SCOTLAND, EAST -	1	less than ½	7 less.	152	+18	21·4	− 0·6
	2. ENGLAND, N.E. - -	0	–	7 less.	129	0	17·4	− 1·4
	3. ENGLAND, EAST -	0	–	7 less.	132	+ 1	17·1	− 0·3
	4. MIDLAND COUNTIES-	0	–	7 less.	126	− 3	15·9	− 4·2
	5. ENGLAND, SOUTH -	0	–	7 less.	125	+ 2	19·6	+ 1·1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	1	1	9 less.	155	+10	33·8	− 1·4
	7. ENGLAND, N.W. - -	0	–	9 less.	147	+13	22·9	− 0·1
	8. ENGLAND, S.W. - -	0	–	10 less.	148	+ 7	25·7	− 3·2
	9. IRELAND, NORTH -	1	less than ½	8 less.	169	+ 8	23·3	− 1·3
	10. IRELAND, SOUTH -	0	–	9 less.	161	+10	27·7	+ 0·5
	— CHANNEL ISLANDS -	0	–	8 less.	146	− 5	22·9	+ 1·7

Bright Sunshine.

	DISTRICTS. (See p. 218).	For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	42	46	875	−139	25	− 4
	1. SCOTLAND, EAST -	52	57	1056	−107	30	− 3
	2. ENGLAND, N.E. - -	48	54	1008	− 53	29	− 2
	3. ENGLAND, EAST -	60	66	1255	− 34	37	− 1
	4. MIDLAND COUNTIES-	50	55	1094	− 56	32	− 1
	5. ENGLAND, SOUTH -	58	65	1187	− 50	35	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	42	47	1108	− 15	32	0
	7. ENGLAND, N.W. - -	43	48	1042	− 82	30	− 2
	8. ENGLAND, S.W. - -	63	71	1226	−112	36	− 3
	9. IRELAND, NORTH -	33	37	1045	+ 9	30	0
	10. IRELAND, SOUTH -	42	46	1130	− 54	33	− 2
	— CHANNEL ISLANDS -	74	83	1480*	−100	44	− 2

General Remarks.

Weather has been very fine and dry, and the general conditions more settled than during any week of the past summer. The days have been fine, warm, and bright, the nights cold, with fog and haze and heavy dew.

Temperature has been above the mean in all districts, the excess having ranged from 1° in "England S." and "E.," "Ireland S.," and the "Channel Islands," to 4° in "Scotland E." The highest of the maxima were registered during the earlier days of the week, and varied from 81° in the "Midland Counties" and 80° in "England S.W." to 72° in "Scotland W." and "Ireland S." The lowest of the minima were recorded at most stations either on the 12th or 13th, and ranged from 36° to 37° in Scotland, from 39° to 43° in Ireland, and from 38° to 44° over England. The diurnal range was large generally.

Rainfall has been less than the mean in all districts. Over the greater part of the Kingdom there was none.

Bright Sunshine has been more prevalent than during any week since that ending April 5th. The percentage of the possible duration ranged from 37 in "Ireland N." and between 48 and 66 in most other districts to 71 in "England S.W." and to 83 in the "Channel Islands."

Barometer and Wind.—During the whole of this period the distribution of pressure has been anticyclonic. The winds have consequently been light generally and somewhat variable in direction; in the south, however, they have been mainly from points between North-East and North-West and in the north from the Westward or South-Westward. By the end of the period the central portion of the high-pressure system had reached the North Sea and the winds over our Islands were Southerly.

* This value has been altered owing to the receipt of further information.

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36 350 9 | 90 607

III.—DATA from which the SUMMARY on page 217 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	65	43	57·9	47·7	52·6	+0·8	74	0	4	0·20	—0·59	*	*
	Stornoway	67	47	61·7	51·1	56·2	+4·7	99	0	4	0·25	—0·67	41·8	46
	Wick	73	40	64·3	48·0	55·8	+3·3	97	0	4	0·38	—0·22	*	*
	Lairg Ⓢ	78	36	66·3	45·5	55·4	+3·5	94	0	4	0·26	—0·48	*	*
	Glencarron Ⓢ	76	42	55·2	47·6	56·0	+4·1	98	0	4	0·95†	—0·63	?	?
	Fort Augustus Ⓢ	75	41	67·5	47·5	57·0	+3·2	105	0	2	0·09†	?	41·5	46
	Fort William Ⓢ	69	42	63·7	48·7	55·8	+1·5	97	0	4	0·21†	—1·35	43·0	47
1. SCOTLAND, E.	Nairn	75	38	67·1	48·1	57·1	+3·8	106	0	2	0·09	—0·53	*	*
	Aberdeen	75	43	66·3	48·4	56·9	+3·5	104	0	2	0·08	—0·67	51·7	57
	Braemar Ⓢ	72	37	65·4	44·3	54·4	+4·0	87	0	1	0·07	—0·82	52·2‡	57‡
	Ochtertyre Ⓢ	79	40	71·3	47·6	58·9	+5·4	118	0	1	0·02	—0·86	*	*
	Leith	76	42	68·6	49·4	58·5	+3·6	116	0	0	—	—0·59	50·4‡	55‡
	Marchmont Ⓢ	75	42	68·4	46·3	56·8	+4·2	104	0	0	—	—0·84	52·3	57
2. ENGLAND, N.E.	Alnwick Castle	71	45	64·3	49·1	56·4	+2·7	101	0	0	—	—0·70	*	*
	Durham	76	44	69·8	48·2	58·5	+3·6	116	0	0	0·01§	—0·59	52·4	58
	Shields	76	47	67·3	48·9	57·7	+3·1	110	0	0	—	—0·60	*	*
	Scarborough ℳ	74	48	66·7	51·9	58·9	+3·3	118	0	0	0·01§	—0·68	51·1‡	57‡
	York	76	46	70·1	51·1	60·1	+4·4	127	0	0	—	—0·68	41·4	46
	Spurn Head	72	52	66·4	53·4	59·6	+3·5	123	0	0	—	?	*	*
3. ENGLAND, E.	Hillington ℳ	77	43	70·8	45·1	57·3	+0·8	107	0	0	—	—0·70	54·1	60
	Yarmouth	68	49	64·1	51·4	57·5	—0·2	109	0	0	—	—0·70	*	*
	Geldeston	77	41	70·0	47·2	58·1	+0·5	113	0	0	-	—0·60	63·2	70
	Cambridge	78	44	74·4	47·4	60·3	+1·7	128	0	0	—	—0·58	61·3	68
	Rothamsted	75	43	70·3	45·5	57·3	—0·3	107	0	0	0·01§	—0·67	59·8	66
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	78	41	70·6	46·6	58·0	+1·4	112	0	0	—	—0·62	45·4‡	50‡
	Loughborough	81	42	74·4	47·7	60·4	+3·6	129	0	0	—	—0·69	53·7‡	60‡
	Cheadle ℳ	73	47	66·6	50·0	57·9	+2·3	111	0	0	—	—0·83	*	*
	Churchstoke ℳ	76	43	69·8	46·1	57·4	+1·3	108	0	0	—	—0·70	40·0	44
	Hereford ℳ	75	43	71·1	46·6	58·3	+1·2	114	0	0	—	—0·73	*	*
	Cirencester	73	43	70·3	46·4	57·8	+0·4	111	0	0	—	—0·80	52·3	58
	Oxford	77	45	72·1	47·7	59·3	+1·7	121	0	0	—	—0·67	57·4	64
5. ENGLAND, S.	London	77	47	73·0	49·0	60·4	+1·3	129	0	0	—	—0·60	42·8‡	48‡
	Strathfield Turgiss ℳ	76	43	72·6	45·4	58·4	+0·2	115	0	0	—	—0·65	*	*
	Dungeness	71	46	67·9	50·3	58·7	—0·1	117	0	0	—	—0·62	47·9‡	53‡
	Hastings (St. Leonards)	70	52	67·5	54·1	60·5	+2·1	130	0	0	—	—0·68	68·4	76
	Southampton	78	46	72·4	50·4	60·9	+3·2	132	0	0	—	—0·77	71·7	80
	Hurst Castle	72	50	69·1	52·1	60·1	+1·9	127	0	0	—	—0·77	*	*
	Stowell ℳ	72	44	68·5	47·8	57·7	+0·1	110	0	0	—	?	61·0‡	68‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	72	46	64·7	49·7	56·8	+2·2	104	0	4	0·40†	—1·20	*	*
	Glasgow	69	44	64·0	48·3	55·8	+1·4	97	0	0	—	—0·97	39·9	44
	Ardrossan	69	45	64·0	51·7	57·6	+3·6	109	0	1	0·06	—0·84	*	*
	Glenlee Ⓢ	69	37	65·1	44·0	54·1	+1·3	85	0	2	0·03†	—1·17	*	*
	Douglas (Isle of Man)	67	45	64·2	49·9	56·7	+2·4	103	0	0	—	—0·89	44·1	49
7. ENGLAND, N.W.	Newton Reigny	74	42	67·1	46·8	56·4	+2·1	101	0	0	0·01§	—0·79	55·3	61
	Stonyhurst	73	43	65·2	49·6	57·0	+1·4	105	0	0	0·02§	—1·16	42·6	47
	Blackpool ℳ	76	?	66·7	?	?	?	?	0	0	—	—0·88	32·3	36
	Manchester	75	43	66·8	49·6	57·8	+1·2	111	0	0	0·02§	—0·95	*	*
	Liverpool Obsy. (Bidston)	77	48	66·6	54·0	60·0	+2·4	126	0	0	0·02§	—0·79	*	*
	Llandudno ℳ													
	Holyhead	70	50	65·6	53·9	59·3	+1·5	121	0	0	0·01§	—0·74	*	*
8. ENGLAND, S.W.	Llandovery	80	38	76·7	42·3	58·6	+1·9	116	0	0	—	—1·20	*	*
	Pembroke	66	52	63·9	54·7	59·1	+3·7	120	0	0	0·02§	—0·87	55·4	62
	Arlington (N. Devon)	73	46	68·7	49·3	58·5	+1·9	116	0	0	—	—1·24	*	*
	Cullompton ℳ	72	41	70·4	45·5	57·4	—1·0	108	0	0	0·02§	—0·87	61·4	68
	Falmouth	67	51	64·3	54·7	59·3	+0·5	121	0	0	—	—1·14	60·5	68
	Plymouth	71	52	70·2	54·4	61·9	+2·5	139	0	0	—	—0·97	74·5	84
	Prawle Point	71	48	66·7	54·4	60·3	+3·7	128	0	0	—	?	*	*
9 IRELAND, N.	Malin Head	71	51	63·1	54·1	58·4	+4·4	115	0	3	0·04	?	*	*
	Londonderry	76	43	67·5	49·4	58·0	+3·1	112	0	2	0·05	—0·83	*	*
	Mullaghmore	73	49	64·1	54·4	59·0	+3·1	119	0	1	0·02	—1·08	*	*
	Belmullet	72	49	63·4	54·1	58·5	+3·4	116	0	2	0·07	?	*	*
	Markree Castle	73	39	65·5	48·8	56·8	+0·9	104	0	2	0·09	—0·67	30·0	33
	Brookeborough	74	39	66·0	49·8	57·5	+1·7	109	0	1	0.02	?	*	*
	Armagh	74	42	67·5	48·9	57·7	+1·9	110	0	0	—	—0·71	35·9	40
	Donaghadee	68	52	63·4	53·7	58·3	+3·5	114	0	0	—	—0·74	*	*
	Edgeworthstown	73	42	66·9	49·3	57·7	+1·1	110	0	1	0·01	—0·79	*	*
10. IRELAND, S.	Dublin	71	53	66·5	54·7	55·1	—0·9	92	0	0	—	—0·60	48·4	54
	Parsonstown	72	43	67·1	50·1	58·2	+0·9	113	0	0	—	—0·81	43·5	48
	Kilkenny	70	44	65·7	49·1	57·0	+0·3	105	0	0	—	—0·75	*	*
	Waterford	72	47	67·5	50·7	58·7	+2·3	117	0	0	—	—0·90	*	*
	Roche's Point	65	48	64·0	53·7	58·6	+1·6	116	0	0	—	—0·98	*	*
	Valencia	66	49	63·9	54·7	59·1	+1·8	120	0	0	—	—1·12	32·9	37
	Killarney	70	46	66·9	52·1	59·1	+1·8	120	0	0	—	?	*	*
	Foynes	71	46	65·8	54·0	59·6	+2·8	123	0	1	0·01	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	66	55	63·4	55·7	59·3	—0·2	121	0	0	—	—0·80	*	*
	Jersey	77	52	71·3	55·7	63·1	+2·5	148	0	0	—	—0·77	74·2	83

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

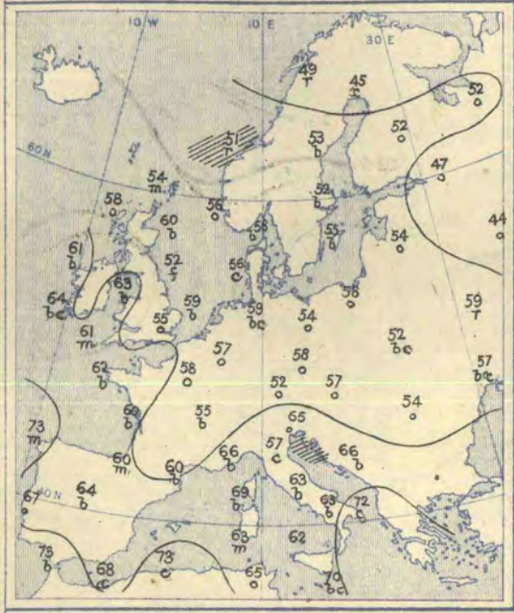
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second and third of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

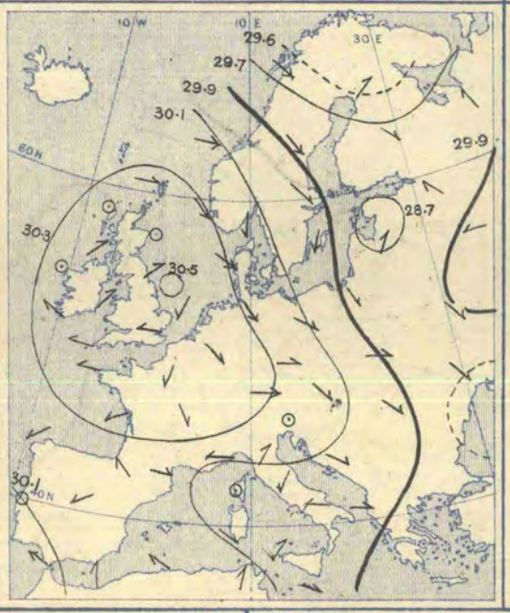
§ Dew.

Sunday, 7th September.

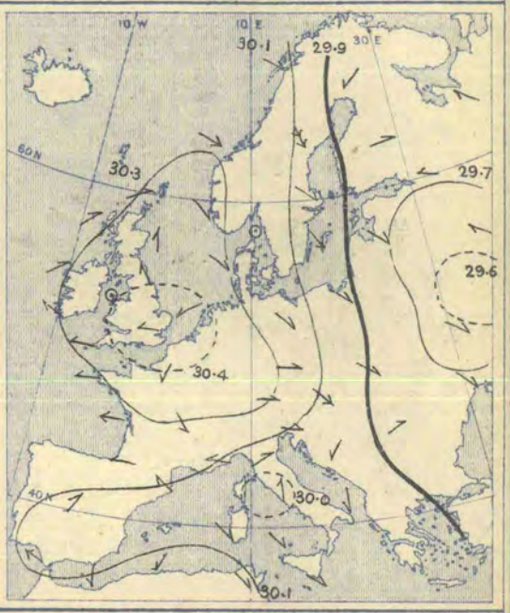
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the British Islands and western Europe generally, but cloudy, hazy, or foggy in a few places. Very dull and gloomy over the whole of northern and eastern Europe, rainy over Scandinavia, at Riga, and in some parts of southern Russia. Rainfall considerable at Christiansund later, slight at Bodö, and also at Munich, heavy at Kieff; weather fine over western Europe all day.

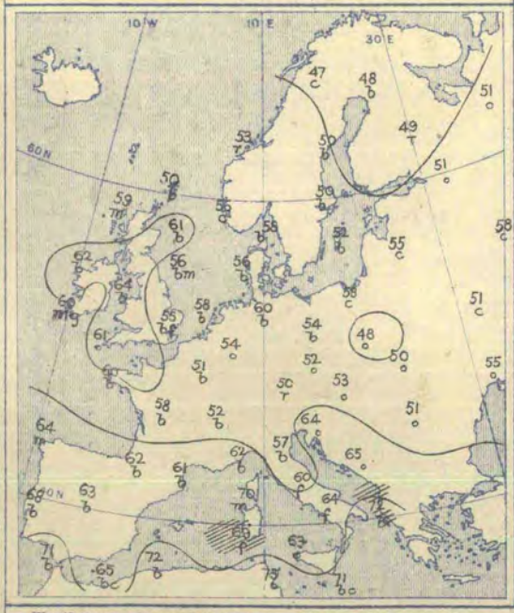
Temperature varying considerably; morning readings exceeding 70° over some parts of the Iberian Peninsula, Algeria, and also at Malta and Brindisi; exceeding 60° on the British and Irish coasts, and on the northern shores of the Mediterranean. Much lower elsewhere; as low as 44° at Moscow, 45° at Haparanda, 47° at St. Petersburg, 49° at Bodö, and 52° at Lemberg and Munich; rising during the day to between 70° and 75° over Great Britain and to nearly 80° over many parts of France and Italy—to 81° at Biarritz, 84° at Lisbon, and 86° at Rochefort and in some parts of Algeria.

Wind light and anticyclonic over the British Islands and France—Easterly at the more southern stations, South-Westerly in the north. Chiefly North-Westerly to Northerly over Scandinavia, the Baltic, Germany, and Austria—strong at the Norwegian stations; Westerly over the Gulf of Finland and in Poland, very variable over Russia and the Mediterranean. Becoming South-Easterly in Ireland later, and veering to North-North-West over the Gulf of Finland; no important change elsewhere.

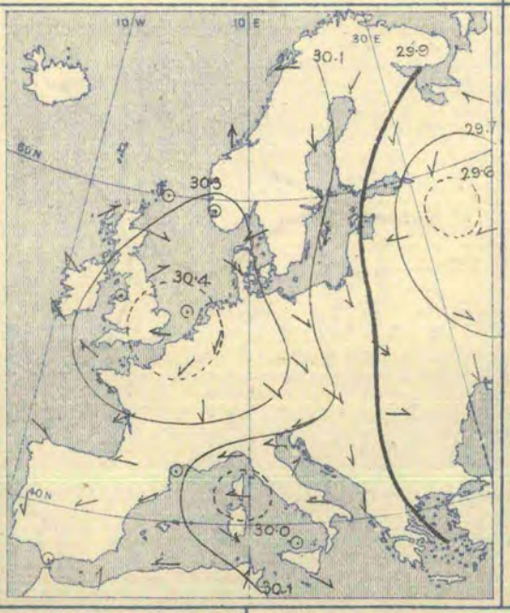
Barometer, 30·2 ins. to 30·5 ins. in a large anticyclone covering the whole of the British Islands, France, the North Sea, western Germany, and the north of Spain; exceeding 29·9 ins. over central Russia. Lowest, 29·6 ins. and less, over Lapland; 29·7 ins. and less over the Baltic Provinces; 29·8 ins. and less over the Black Sea. Falling slightly over the United Kingdom later, rising briskly over Scandinavia. Anticyclonic system moving southwards slowly.

Monday, 8th September.

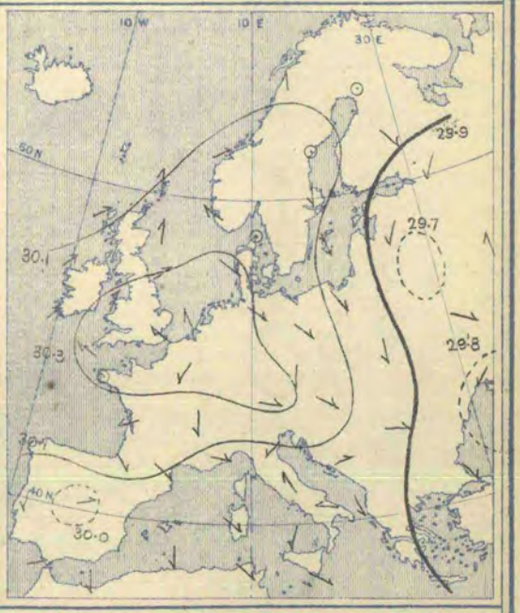
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather very fine and bright over the British Islands, France, Spain, and Algeria, as well as at many of the Italian stations; foggy at Cagliari, Naples, and Rome, as well as in London and at York; hazy on our south-west coasts; very dull over northern, eastern, central, and south-eastern Europe, with rain over Norway and Finland. Considerable rain later both in Norway and over southern Russia; slight falls in Scotland, the north of Ireland, and at Munich.

Temperature exceeding 70° at very few of the Spanish and Mediterranean stations, exceeding 60° in several parts of the British Islands, but below that value over the greater part of the Continent, and as low as (1) 47° at Bodö and Ulcaborg, 48° at Haparanda, 49° at Kuopio; (2) 45° at Cracow, 50° at Lemberg, Breslau, and Munich, 52° at Prague. Rising to between 70° and 79° over Great Britain and Italy later, and to upwards of 80° in the south-west and south of France and Algeria, and to upwards of 90° in some parts of Spain.

Wind anticyclonic over north-western Europe, cyclonic in the south-east, east, and north; chiefly Easterly at the southern stations, South-Easterly and Southerly in the extreme west, but Northerly over Sweden and the Baltic, North-Westerly over Germany, Austria, and Hungary. Veering to South and South-West in Ireland and Scotland later, and becoming very variable on the Mediterranean shores.

Barometer highest, 30·2 ins. to 30·4 ins. and more, in a large anticyclone covering the British Islands and north-western Europe. Lowest, 29·6 ins. and less, in a large depression over Russia, about 30·0 ins. in a shallow system lying over Corsica. Falling over the United Kingdom later as a new disturbance advanced towards Norway from the south-westward.

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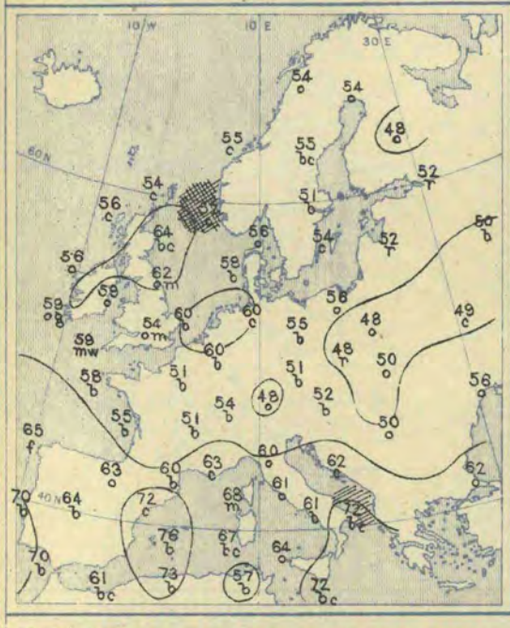
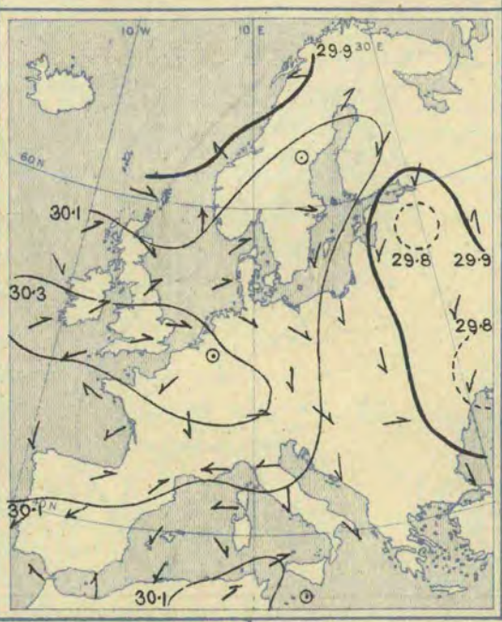
Tuesday, 9th September.

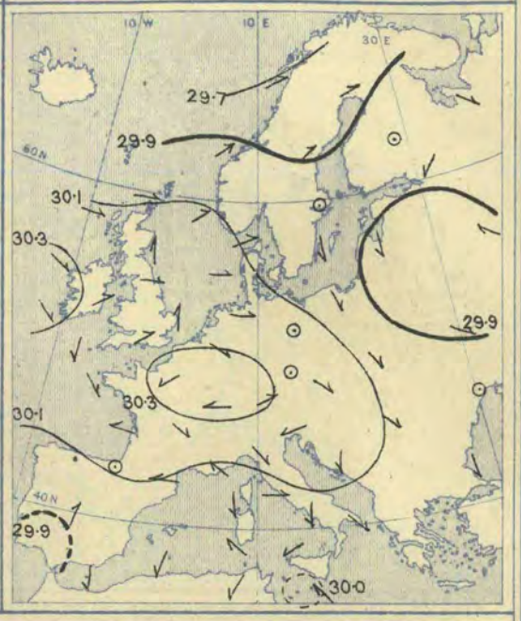
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the greater part of western and southern Europe; dull, foggy, or misty at many stations over the British Islands, cloudy in the north; dull and unsettled over northern and eastern Europe, as a whole, with rain at a few stations. Considerable rain in Norway later, and also at Kieff; weather fair in most other places, heavy dew at night.

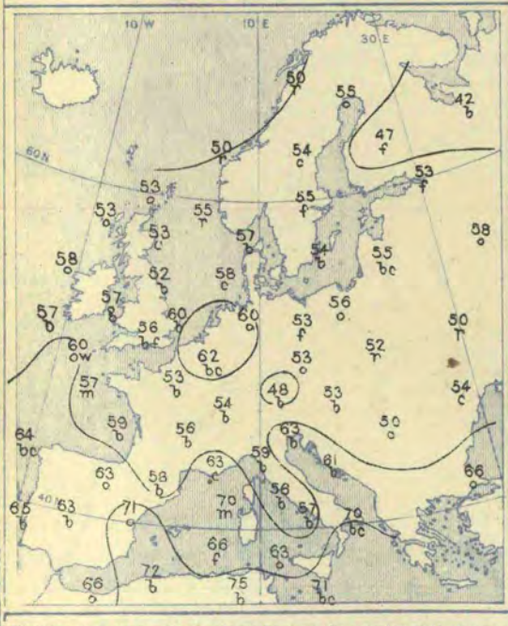
Temperature still exceeding 70° at some of the Mediterranean stations, and exceeding 60° in the south of France, the north of Spain, and some parts of the British Islands. Much lower elsewhere, (1) 48° at Munich, Cracow, and Breslau, 49° at Kieff, 50° at Lemberg, Buda-Pesth, and Hermanstadt; (2) 43° at Uleaborg, 48° at Kuopio, 49° at Hangö, and 50° at Helsingfors and Moscow. Rising to between 70° and 79° over many parts of the British Islands, France, and Italy later, and to upwards of 90° in some parts of Spain and Algeria.

Wind light and variable from the Westward over Scotland and the north of Ireland, from South and South-East in Norway; Northerly over the Baltic, North-Westerly over Germany and Austria, North-Easterly over France and Spain, Easterly over the Bay of Biscay. South-Westerly wind increasing to a gale in Norway later; no other change of importance.

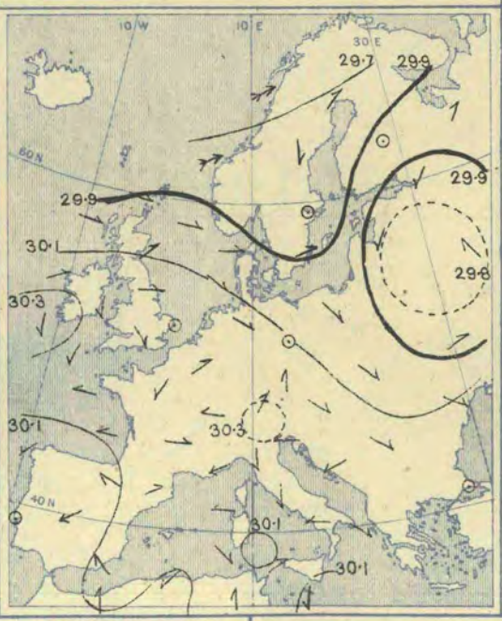
Barometer highest, 30·2 ins. to 30·3 ins. and more, over Ireland, England, Holland, Germany, France, and the Bay of Biscay. Lowest, 29·9 ins. and less, off the west of Norway, and in a large depression over the Baltic Provinces and western Russia. Falling over Scandinavia later, very little change elsewhere.

Wednesday, 10th September.

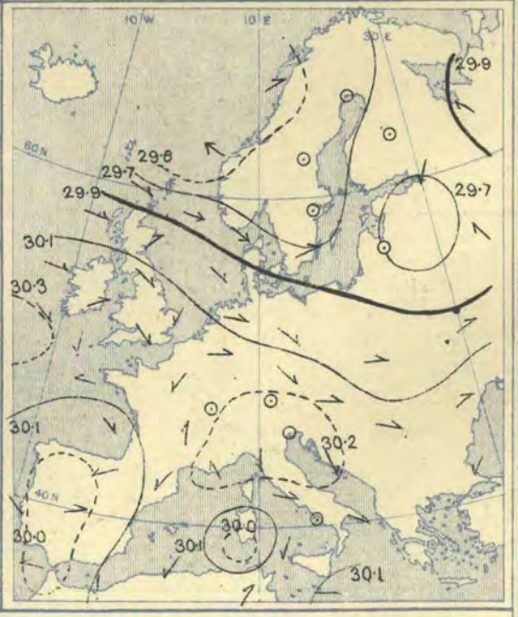
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather, in morning, fine and bright over the greater part of western Europe, but with fog, mist, and heavy dew in many parts of England; dull and unsettled over Germany, Russia, and northern Europe, with rain at the Norwegian stations, as well as in some parts of Hungary and the south of Russia. Rain later over the northern parts of Scandinavia and the Baltic Provinces of Russia, and some showers in the north-western and northern parts of the British Islands, as well as at Brindisi and Lemberg.

Temperature falling in the north-west and north: morning readings as low as (1) 42° at Archangel, 47° at Kuopio, 48° at Uleaborg, and 50° at Helsingfors, Bodö, and Christiansund; (2) 48° at Munich and Breslau, 49° at Buda-Pesth, 50° at Hermanstadt, Warsaw, and Kieff. Exceeding 70° at a few of the Mediterranean stations only and exceeding 80° over the greater part of Spain. Rising later to between 70° and 77° over the south of England and south of France, and to upwards of 80° at Brest, Lorient, and Sanguinaire, and in the south of Italy, and upwards of 90° in some parts of Algeria.

Wind light and anti-cyclonic over Ireland, England, France, and Germany; North-Easterly over Spain, Easterly over the Bay of Biscay, Westerly over northern parts of our Islands; South-Westerly, strong to a gale, in Norway, and chiefly light from North-West over Germany and Austria. Westerly wind becoming more general over the British Islands later, but strong Easterly breeze setting in at Christiansund.

Barometer highest, 30·1 ins. to 30·3 ins., in anticyclonic systems covering the British Islands, France, Germany, Austria, and northern Italy. Lowest, 29·7 ins. and less, over the north of Scandinavia; 29·8 ins. and less in a depression over Russia; 30·1 ins. and less in shallow systems over Spain and the Mediterranean. Depression in far north moving south-eastwards later, those over Spain and the Mediterranean growing somewhat deeper.

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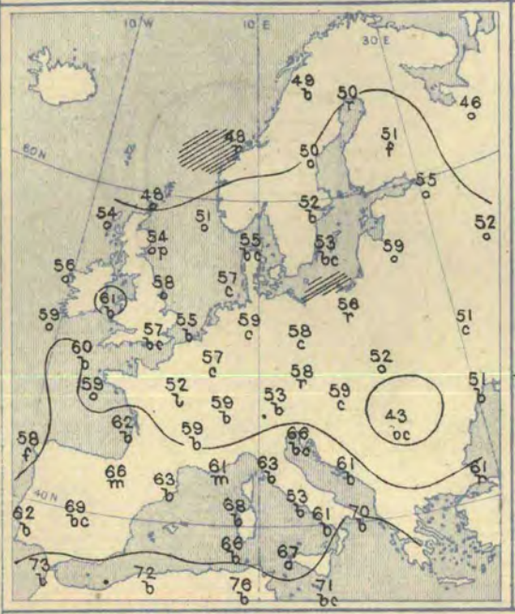
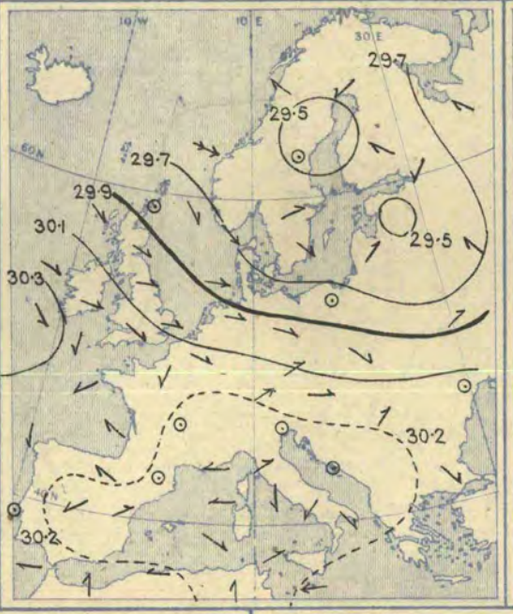
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 11th September.

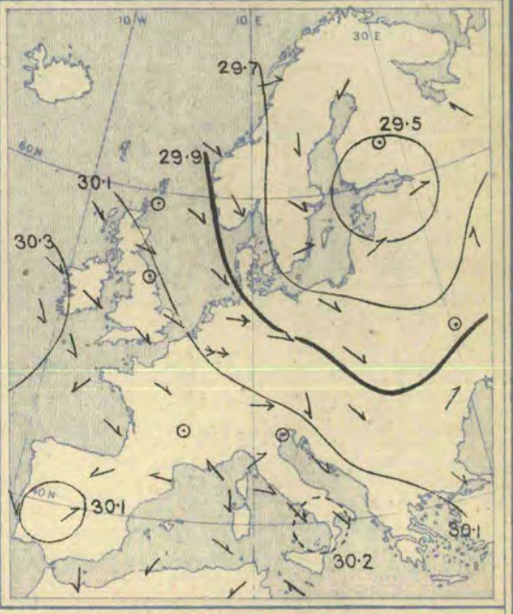
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the Mediterranean, south-western and western Europe, including the southern half of England; cloudy or overcast in Ireland, Scotland, northern, eastern, and central Europe, with rain in several localities. Rain falling later in the north of Scotland, at the Scandinavian stations, in northern Russia, and in Germany—amounts large in some places.

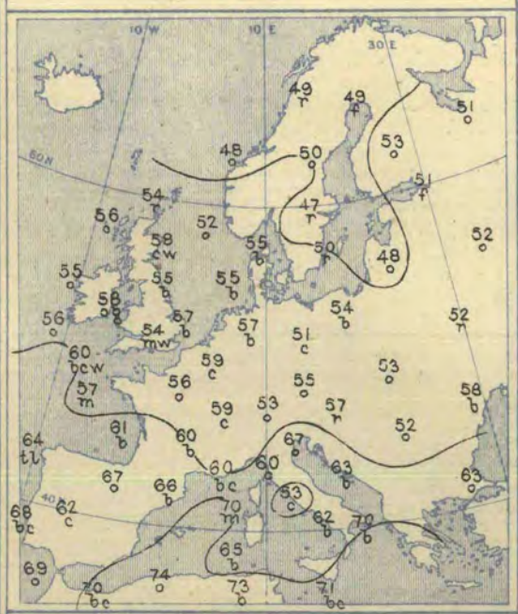
Temperature still exceeding 70° on certain parts of the eastern, southern, and western shores of the Mediterranean, much lower elsewhere; below 60° over the greater part of Europe, and as low as 46° at Archangel, 48° at Christiansund and Sumburgh Head, 49° at Bodö, and 50° at Haparanda and Hernösand. Rising later to 69° at Leith, and to a little above 70° at some of our southern stations; slightly exceeding 80° at Rochefort, Brindisi, and Lisbon, but falling short of that value over France and Italy as a whole; varying from 80° to 95° over Algeria.

Wind North-Westerly over Ireland, Scotland, Norway, and the North Sea, and blowing hard at Christiansund; South-Westerly in many parts of Germany, South-Easterly to North-Easterly in the north of Russia; Northerly airs in the English Channel, and North-Easterly to Easterly breezes over the Bay of Biscay and Spain. Veering to North-West very generally over our Islands later, and becoming variable over Spain.

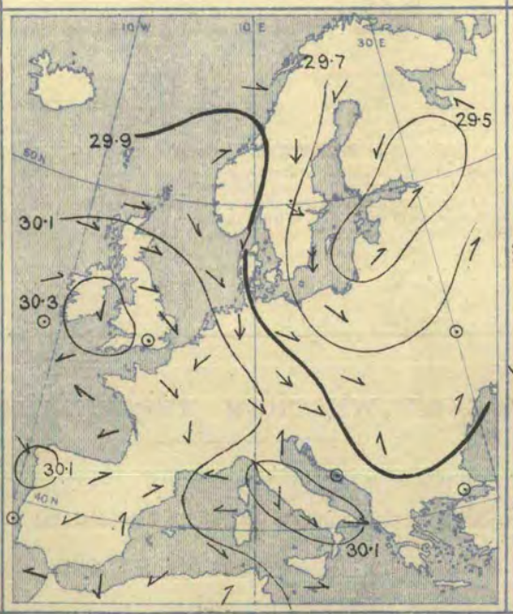
Barometer highest, 30·2 ins. to 30·3 ins. and more, over Ireland, the south-west of England, Brittany, and adjacent parts of Atlantic, and exceeding 30·2 ins. over the Mediterranean, southern, and south-eastern Europe. Lowest, 29·6 ins. to 29·5 ins., in a complex depression over the Baltic Provinces, Finland, and the northern half of Scandinavia. Gradients moderate. Rising over our Islands later as the Atlantic anticyclone spread eastwards and north-eastwards, falling over the Baltic Provinces, as depression in that region grew deeper, but less complex.

Friday, 12th September.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.

Weather fine, clear, and bright over nearly the whole of western Europe, including the major part of the British Islands; cloudy in many parts of Ireland, the west of Norway, Finland, Russia, Germany, and Austria; rain falling in several localities, fog in the Gulf of Finland. Some rain later over several parts of northern Europe, and a heavy fall reported locally at Pesaro (Italy).

Temperature in morning still exceeding 70° at a few Mediterranean stations and at Bilbao, and exceeding 60° over the southern parts of France and at a few stations on the shores of the English Channel. As low as 47° over some parts of the Baltic, 48° at Riga, 49° at the two stations in Lapland, and 51° to 54° over central England, as well as in many parts of Germany. Rising later to between 65° and 70°, over England and some parts of Germany, but to a higher value over France and Italy; exceeding 80° at Cagliari, and exceeding 90° in central Algeria.

Wind light and anticyclonic over the British Islands and their neighbourhood, strong to a gale from the Northward over Sweden, moderate North-Westerly over Germany and the greater part of Austria, very variable elsewhere. Gale in Sweden moderating later, and wind becoming more Westerly over Hungary and south Germany.

Barometer highest, 30·1 ins. to 30·3 ins. and more, in a large anticyclone lying over western Europe generally—centre of the system lying over St. George's Channel. Lowest, 29·5 ins. and less, in a large, but not deep, depression lying over the Baltic Provinces and Finland. Gradients somewhat steep over Scandinavia and eastern shores of North Sea. Both systems moving eastwards later.

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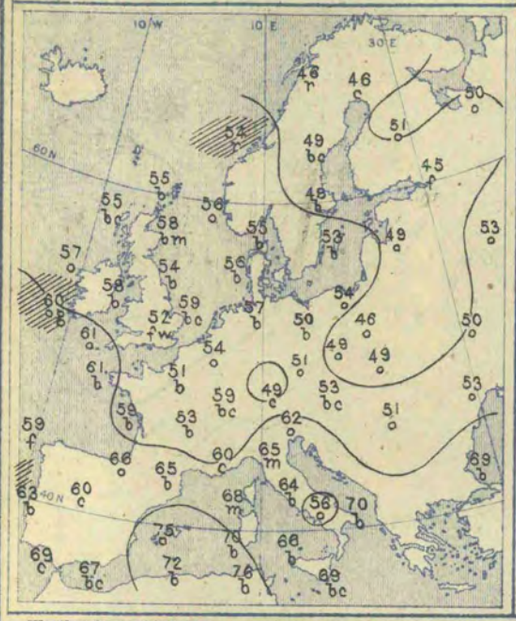
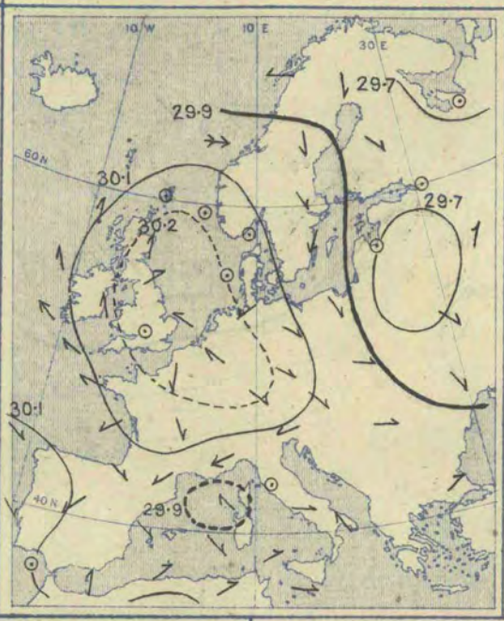
Saturday, 13th September.

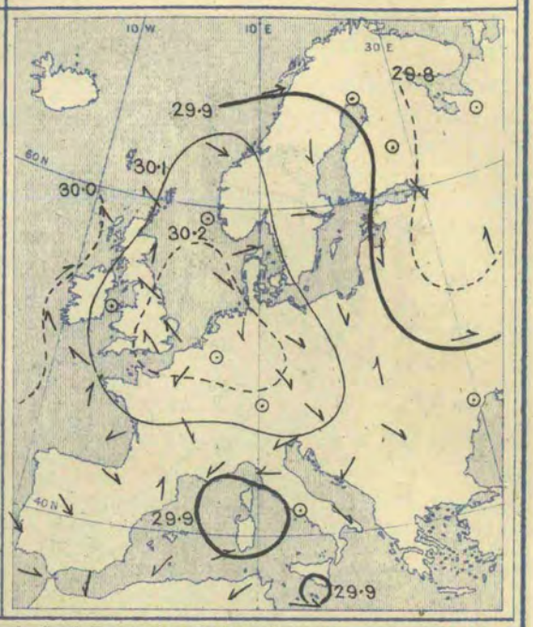
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over nearly the whole of western and southern Europe, but mist or fog and heavy dew reported in many parts of the United Kingdom, and rain in the west of Norway. Cloudy in Germany, Russia, and Austria, with rain at Cracow. Thunderstorms occurring in evening in the south of France and very heavy rain falling in Italy, the largest amounts reported next morning being 2·5 ins. at Naples and 1·4 ins. at Rome.

Temperature highest, 76° at La Calle, 75° at Palma, 72° at Algiers, and 70° at Cagliari and Brindisi; reaching 60° or a little more on the south and south-west coasts of our Islands. Lowest, 45° at St. Petersburg, 46° at Bodö, Haparanda, Ulcaborg, Warsaw, and Cracow, and 47° at Loughborough. Rising during day to 70° or more in many parts of England and reaching 76° at Loughborough. Exceeding 80° in Spain, Algeria, and the southern parts of France and Italy, the highest readings of all being 97° at Biskra and 91° at Laghouat.

Wind light or moderate from the South-Eastward or Southward over the greater part of the United Kingdom; North-Westerly or Northerly over Sweden, Germany, and Russia, Westerly in Austria, North-Easterly in France, variable in Spain and Italy, Southerly or South-Westerly in Algeria. North-Westerly breezes subsequently setting in over Spain and Northerly breezes in Italy and Algeria.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over England, the North Sea, Belgium, western Germany, and the north-east of France. Lowest, 29·7 ins. and less, in two shallow depressions, lying respectively over northern and central Russia; 29·9 ins. and less in another shallow system lying over Corsica and Sardinia. Large disturbances moving northwards along our extreme western coasts during day and barometer falling in most parts of the United Kingdom.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

Throughout this week the distribution of pressure has been anticyclonic over western, cyclonic over eastern, and, at times, over northern and southern Europe. The winds over the western countries have con-equently been light and variable, though mainly Easterly over Spain and France. Over the Baltic, Poland, and western Russia, however, and at times over Germany, they have been mainly North-Westerly, while over Scandinavia and the northern parts of the British Isles South-Westerly to North-Westerly winds of considerable strength were experienced about the middle of the week. Within the anticyclonic area the weather has been rather cold and foggy at night, warm and fine during the day, but over northern, eastern, and central Europe temperature has been relatively low, the weather somewhat showery, and at times thundery.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report has been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June,** *price* 4d. *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 38.] *Third Series.* WEEK ENDING SATURDAY, 20TH SEPTEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1378-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 224.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Observed during the Week. Averages of Daily Maxima.	Observed during the Week. Averages of Daily Minima.	Observed during the Week. Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	74	43	63·7	51·0	57·0	6 above.	105	+40	0	0	1718	+122	438	− 72
	1. SCOTLAND, EAST	75	45	65·3	50·8	57·7	6 above.	110	+32	0	0	2023	− 35	485	− 58
	2. ENGLAND, N.E.	76	46	65·7	53·0	59·1	5 above.	120	+32	0	0	2237	+ 28	389	− 93
	3. ENGLAND, EAST	77	43	68·8	52·6	60·3	4 above.	128	+31	0	0	2490	− 64	468	− 39
	4. MIDLAND COUNTIES	78	41	69·5	48·6	58·6	3 above.	116	+13	0	0	2449	− 81	478	− 27
	5. ENGLAND, SOUTH	76	40	68·1	53·1	60·2	3 above.	127	+21	0	0	2682	− 64	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	68	41	63·8	50·6	56·9	4 above.	104	+21	0	0	2142	− 18	325	− 73
	7. ENGLAND, N.W.	73	45	66·7	52·2	59·1	4 above.	120	+30	0	0	2322*	+ 36	302	− 81
	8. ENGLAND, S.W.	75	44	64·5	52·3	58·1	2 above.	113	+11	0	0	2523	− 80	245	+ 12
	9. IRELAND, NORTH	70	39	63·5	52·1	57·6	3 above.	109	+26	0	0	2236	− 6	294	− 56
	10. IRELAND, SOUTH	68	41	63·0	52·6	57·5	2 above.	109	+16	0	0	2522*	− 3	224	− 15
	— CHANNEL ISLANDS	71	50	64·9	54·5	59·4	1 above.	122	+ 8	0	0	2798	− 1	71	− 22

Rainfall.

	DISTRICTS. (See p. 224.)	For the Week. Number of Rainy Days.	For the Week. Total Fall.	For the Week. More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Total Fall.	From December 29th, 1889. Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	6	1 less.	184	+24	34·3	− 0·4
	1. SCOTLAND, EAST	3	5	3 less.	155	+17	21·9	− 0·9
	2. ENGLAND, N.E.	4	5	2 less.	133	0	17·9	− 1·6
	3. ENGLAND, EAST	4	4	2 less.	136	+ 1	17·5	− 0·5
	4. MIDLAND COUNTIES	3	4	3 less.	129	− 4	16·3	− 4·5
	5. ENGLAND, SOUTH	4	6	1 less.	129	+ 1	20·2	+ 1·0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	3	9	2 less.	158	+ 9	34·7	− 1·5
	7. ENGLAND, N.W.	3	6	3 less.	150	+12	23·5	− 0·4
	8. ENGLAND, S.W.	4	9	2 less.	152	+ 7	26·6	− 3·4
	9. IRELAND, NORTH	5	11	3 more.	174	+ 8	24·4	− 1·0
	10. IRELAND, SOUTH	6	16	8 more.	167	+12	29·3	+ 1·2
	— CHANNEL ISLANDS	4	6	2 less.	150	− 6	23·5	+ 1·4

Bright Sunshine.

	DISTRICTS. (See p. 224.)	For the Week. Hours recorded.	For the Week. Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Percentage of possible Duration.	From December 29th, 1889. Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	31	36	906	−129	25	− 4
	1. SCOTLAND, EAST	28	32	1084	− 96	31	− 2
	2. ENGLAND, N.E.	36	41	1045*	− 38	30	− 1
	3. ENGLAND, EAST	54	63	1309	− 9	37	− 1
	4. MIDLAND COUNTIES	46	52	1140	− 36	33	− 1
	5. ENGLAND, SOUTH	51	58	1238	− 27	36	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	32	37	1140	− 2	32	0
	7. ENGLAND, N.W.	37	43	1079	− 68	31	− 1
	8. ENGLAND, S.W.	43	50	1269	−100	37	− 2
	9. IRELAND, NORTH	32	37	1077	+ 19	31	+ 1
	10. IRELAND, SOUTH	31	36	1161	− 50	33	− 1
	— CHANNEL ISLANDS	47	55	1527	− 94	44	− 3

General Remarks.

Weather continued very fine over the greater part of the Kingdom during the earlier days of the week, unsettled conditions subsequently extended over us from the westward and southward; rain fell in all districts, and thunderstorms occurred in many places.

Temperature has again been above the mean, the excess having ranged from 1° in the "Channel Islands" and 2° in "England S.W." and "Ireland S." to as much as 6° in "Scotland N." and "E." and 5° in "England N.E." The highest of the maxima were generally recorded either on the 15th or 16th, and varied from 68° to 70° in Ireland, from 68° to 75° in Scotland, and from 73° to 78° over England. The lowest of the minima were registered during the early part of the period, and varied from 39° in "Ireland N." to 46° in "England N.E.," and to 50° in the "Channel Islands." During the latter part of the week the maxima were lower and the minima higher than those experienced on the earlier days.

Rainfall has been more than the mean over Ireland, but less over Great Britain.

Bright Sunshine, although considerable, has been much less prevalent generally than in the previous week. The percentage of the possible duration ranged from 32 in "Scotland E." and 36 in "Scotland N." to 55 in the "Channel Islands" and to 63 in "England E."

Barometer and Wind.—During the whole of the period depressions have been approaching nearer to our western and southern coasts than for some time past, and the wind has increased gradually from the Southward and South-Eastward. Until nearly the end of the period none but shallow systems reached us, but during the 19th and 20th the centre of a deep disturbance moved slowly from the South-South-Westward along the west coast of Ireland, and caused the wind to increase to a gale from the Southward or South-Eastward at most of our western stations.

* This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 223 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	63	50	58·1	52·0	54·9	+4·1	90	0	4	1·16	+0·34	*	*
	Stornoway	66	45	62·6	50·3	56·2	+5·5	99	0	6	0·77	—0·20	35·1	40
	Wick	70	44	60·3	50·0	54·9	+3·3	90	0	4	0·62	—0·00	*	*
	Lairg	74	43	65·6	48·3	56·5	+5·9	102	0	2	0·18	—0·60	*	*
	Glencarron	73	46	66·9	51·0	58·6	+7·8	116	0	2	0·25†	—1·40	?	?
	Fort Augustus	71	45	66·6	52·4	59·2	+6·3	120	0	3	0·25†	?	27·1	31
	Fort William	71	45	65·9	52·7	59·0	+5·6	119	0	4	0·64†	—0·97	31·2	36
1. SCOTLAND, E.	Nairn	74	48	68·0	51·4	59·3	+6·9	121	0	2	0·05	—0·58	*	*
	Aberdeen	70	50	59·7	53·6	56·5	+4·0	102	0	4	0·30	—0·45	14·0	16
	Braemar	67	46	61·7	50·8	56·0	+6·7	98	0	4	1·12	+0·24	24·7‡	28‡
	Ochtertyre	71	46	67·7	49·9	58·4	+5·8	115	0	3	0·82	—0·10	*	*
	Leith	75	47	68·4	49·9	58·7	+5·0	117	0	2	0·24	—0·34	37·4‡	43‡
	Marchmont	70	45	66·0	48·9	57·0	+5·7	105	0	4	0·43	—0·42	33·8	39
2. ENGLAND, N.E.	Alnwick Castle	64	49	61·9	52·0	56·7	+3·9	103	0	5	0·92	+0·21	*	*
	Durham	74	46	69·2	50·9	59·6	+5·5	123	0	3	0·51	—0·09	36·4	42
	Shields	68	49	63·6	51·6	57·3	+3·7	107	0	4	0·32	—0·28	*	*
	Scarborough	66	52	65·3	54·8	59·8	+5·0	125	0	2	0·20	—0·50	37·8‡	43‡
	York	76	49	70·7	52·1	61·0	+6·1	133	0	4	0·60	—0·10	34·1	39
	Spurn Head	66	54	63·4	56·7	59·9	+4·8	125	0	3	0·14	?	*	*
3. ENGLAN , E.	Hillington	73	45	70·4	52·2	60·9	+5·9	132	0	3	0·44	—0·27	53·4	61
	Yarmouth	65	55	63·7	57·6	60·5	+4·1	130	0	4	0·72	—0·02	*	*
	Geldeston	71	43	68·2	52·7	60·1	+3·6	127	0	3	0·60	—0·05	60·7	70
	Cambridge	77	46	73·4	51·3	61·8	+4·2	139	0	3	0·15	—0·43	54·7	63
	Rothamsted	71	43	68·4	49·0	58·2	+1·9	113	0	5	0·27	—0·43	48·8	56
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	77	42	72·1	46·1	58·5	+2·9	116	0	3	0·30	—0·35	42·1‡	48‡
	Loughborough	78	46	73·4	50·4	61·4	+6·0	136	0	4	0·58	—0·13	48·4‡	56‡
	Cheadle	72	49	66·8	52·1	59·1	+4·7	120	0	3	0·29	—0·56	*	*
	Churchstoke	72	43	67·6	46·5	56·6	+1·7	102	0	3	0·60	—0·12	46·5	53
	Hereford	73	44	68·7	49·4	58·6	+3·0	116	0	4	0·45	—0·30	*	*
	Cirencester	74	41	68·3	47·3	57·3	+1·4	107	0	4	0·39	—0·43	40·3	46
	Oxford	74	42	69·4	48·7	58·6	+2·3	116	0	3	0·29	—0·39	50·2	58
5. ENGLAND, S.	London	76	47	72·0	52·3	61·7	+4·1	138	0	3	0·29	—0·31	45·1‡	52‡
	Strathfield Turgiss	74	40	70·4	46·2	57·7	+0·9	110	0	4	0·29	—0·38	*	*
	Dungeness	69	53	67·3	58·0	62·4	+4·6	143	0	4	0·52	—0·16	55·7‡	64‡
	Hastings (St. Leonards)	68	51	66·4	56·7	61·3	+3·8	135	0	4	1·25	+0·54	56·3	65
	Southampton	71	46	68·2	52·2	59·8	+3·4	125	0	2	0·51	—0·27	52·3	60
	Hurst Castle	72	50	67·4	55·7	61·3	+4·1	135	0	4	0·43	—0·35	*	*
	Stowell	70	43	65·4	50·4	57·5	+1·3	109	0	5	1·15	?	44·7‡	51‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	67	45	64·6	52·5	58·3	+4·8	114	0	4	1·29†	—0·43	*	*
	Glasgow	68	46	65·0	52·3	58·4	+4·9	115	0	2	0·41	—0·57	26·0	30
	Ardrossan	66	48	63·0	52·6	57·6	+4·6	109	0	3	0·66	—0·24	*	*
	Glenlee	67	41	63·9	45·7	54·4	+1·8	87	0	3	0·87†	—0·41	*	*
	Douglas (Isle of Man)	64	43	62·4	49·7	55·8	+2·6	97	0	4	1·22	+0·32	37·1	43
7. ENGLAND, N.W.	Newton Reigny	70	45	66·1	49·1	57·2	+4·1	106	0	2	0·50	—0·31	40·4	46
	Stonyhurst	70	48	65·7	51·3	58·2	+4·1	113	0	3	0·20	—0·39	41·8	48
	Blackpool	72	?	68·4	?	?	?	?	0	2	0·90	—0·02	26·7	31
	Manchester	73	50	67·8	52·6	59·8	+4·8	125	0	3	0·28	—0·71	*	*
	Liverpool Obsy. (Bidston)	72	49	67·4	52·1	59·4	+3·1	122	0	3	0·62	—0·19	*	*
	Llandudno	73	51	67·7	53·9	60·5	+3·2	130	0	4	0·59	—0·20	40·1	46
	Holyhead	70	50	65·3	54·3	59·5	+2·7	123	0	3	0·38	+0·09	*	*
8. ENGLAND, S.W.	Llandovery	75	44	70·1	48·0	58·5	+2·9	116	0	4	0·36	—0·54	*	*
	Pembroke	64	55	62·1	56·4	59·1	+4·5	120	0	4	0·59	—0·33	47·3	55
	Arlington (N. Devon)	68	47	64·0	50·4	56·9	+1·3	104	0	4	1·09	—0·15	*	*
	Cullompton	70	45	66·0	49·0	57·1	+0·1	106	0	4	0·56	—0·35	41·8	48
	Falmouth	65	51	62·2	53·4	57·6	+0·1	109	0	4	2·12	+0·90	37·6	44
	Plymouth	68	53	65·1	54·0	59·3	+1·2	121	0	2	1·04	+0·05	45·0	52
	Prawle Point	65	52	61·7	55·1	58·2	+2·8	113	0	3	0·36	?	*	*
9 IRELAND, N.	Malin Head	68	50	62·9	52·7	57·6	+5·1	109	0	4	1·22	?	*	*
	Londonderry	70	46	65·4	51·9	58·3	+4·6	114	0	4	1·50	+0·61	*	*
	Mullaghmore	67	51	63·0	54·0	58·3	+3·5	114	0	6	0·78	—0·33	*	*
	Belmullet	68	49	62·9	52·4	57·4	+3·6	108	0	7	1·93	?	*	*
	Markree Castle	66	44	64·0	50·3	56·8	+2·0	104	0	5	0·70	—0·06	22·7	26
	Brookeborough	68	47	64·1	51·4	57·5	+2·9	109	0	4	1·32	?	*	*
	Armagh	65	39	63·3	50·5	56·6	+2·0	102	0	4	0·74	—0·01	40·7	47
	Donaghadee	67	53	62·1	54·4	58·1	+4·5	113	0	4	1·07	+0·32	*	*
	Edgeworthstown	68	45	64·1	51·6	57·6	+2·2	109	0	5	0·83	+0·03	*	*
10. IRELAND, S.	Dublin	66	49	62·5	53·0	57·5§	+2·7§	109§	0	5	1·73	+1·14	35·8	41
	Parsonstown	67	47	64·3	52·3	58·0	+2·0	112	0	4	0·65	—0·16	28·9	33
	Kilkenny	65	44	62·3	51·1	56·4	+0·8	101	0	5	1·79	+1·04	*	*
	Waterford	68	43	63·5	51·7	57·3	+1·9	107	0	4	1·79	+0·87	*	*
	Roche's Point	65	47	62·9	54·6	58·6	+2·8	116	0	6	1·64	+0·62	*	*
	Valencia	65	48	62·6	54·3	58·3	+1·9	114	0	7	1·96	+0·82	28·9	33
	Killarney	66	41	62·3	51·0	56·4	+0·2	101	0	7	1·92	?	*	*
	Foynes	68	47	63·5	52·6	57·7	+1·6	110	0	7	1·53	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	67	50	62·7	53·0	57·6	—0·8	109	0	5	0·89	+0·02	*	*
	Jersey	71	53	67·0	55·9	61·2	+1·7	134	0	3	0·33	—0·50	47·2	55

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked 𝒮 with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

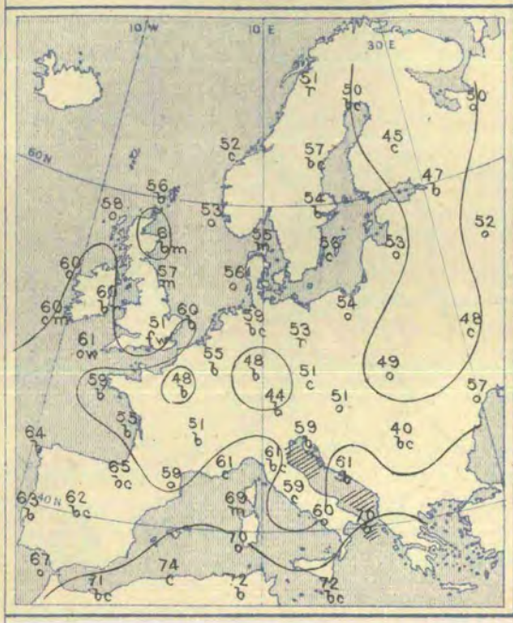
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

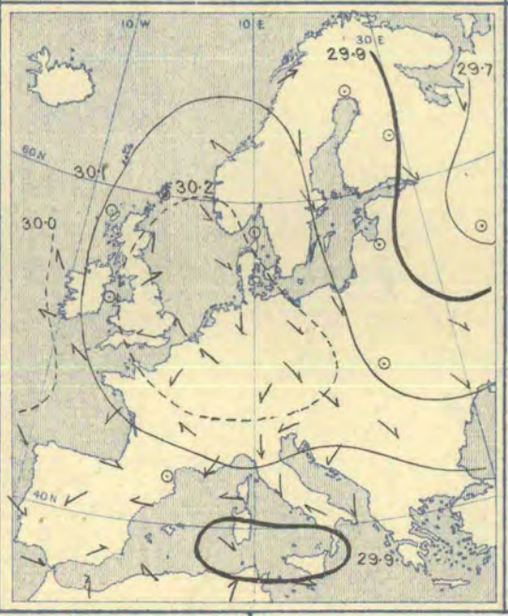
§ The corresponding values in last week's Report should read "60·3," "+4·3," "128."

Sunday, 14th September.

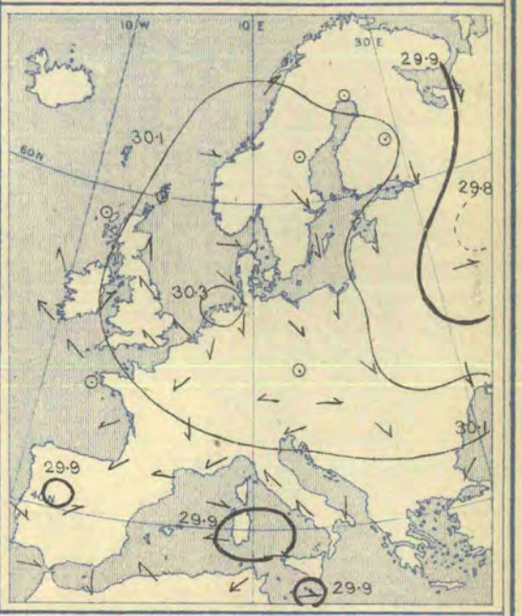
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of Europe, but dull in Ireland, as well as at many of the German, Russian, and Italian stations. Mist and heavy dew reported in many parts of Great Britain; rain at Bodö and Berlin. Considerable rain falling later in the west and south of Ireland, lightning seen at Valencia and Roche's Point.

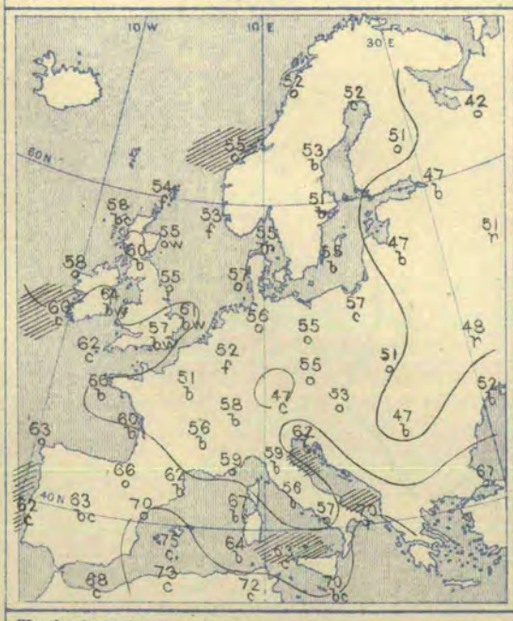
Temperature highest, 74° at Algiers, 73° at Barcelona, 72° at La Calle and Malta, and 71° at Bilbao and Oran; 60° or a little more in many parts of the United Kingdom, but as low as 51° in London (where fog prevailed). Below 50° in many parts of Russia and central Europe, the lowest readings of all being 40° at Hermanstadt and 41° at Munich. Subsequently rising to 70° or a little more in several parts of Great Britain, Italy, and France, but remaining below 65° in Ireland and over the greater part of Germany. Maxima over Algeria touching 90° in some places.

Wind moderate from the Eastward or North-Eastward over Italy, France, and the Channel, and from the South-Eastward over England and Ireland; light from the Southward in the east of Scotland. Light from North-West or North over Sweden, Denmark, the Baltic, and the greater part of Russia, Austria, and Germany; variable in Spain. The South-Easterly wind freshening a little in Ireland during the day, but not much change observed elsewhere.

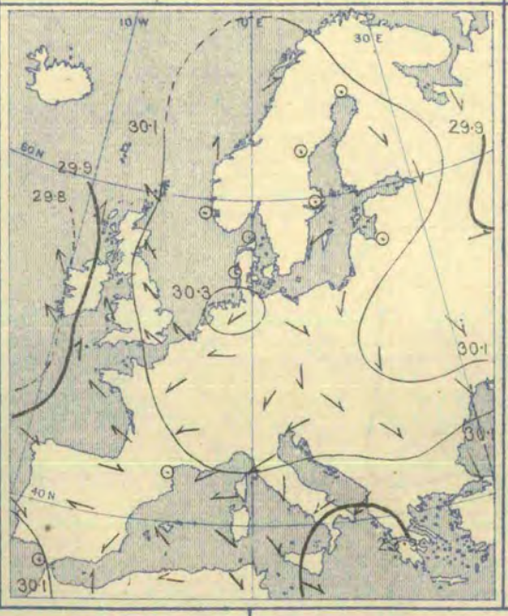
Barometer highest, 30·2 ins. and upwards, in a large anticyclone lying over the North Sea, Germany, England, and the north-east of France. Lowest, 29·7 ins. and less, in a large shallow area lying over the north-east of Russia; 29·9 ins. and less in another shallow system over the central parts of the Mediterranean, and about 30·0 ins. off the west coast of Ireland. Slight fall taking place over western Europe during day, anticyclone becoming somewhat smaller and moving eastwards slowly.

Monday, 15th September.

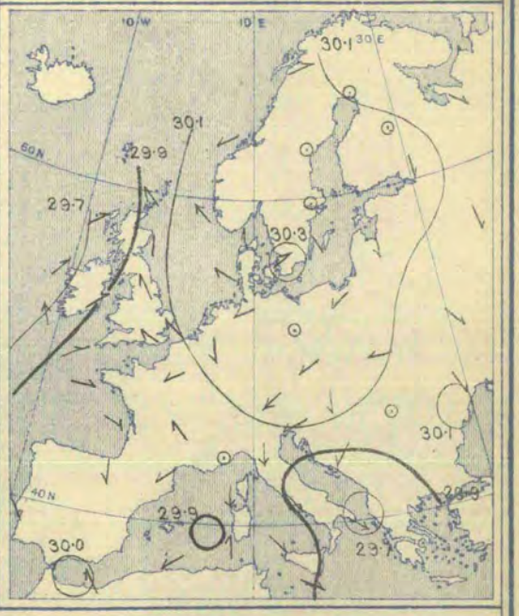
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather becoming less settled over the western parts of our Islands than of late, but continuing fine and bright over England and the greater part of western Europe, and at many of the Baltic stations. Sky cloudy or overcast in Russia, Germany, and Austria, with rain at Moscow and Kieff; fog reported at Münster, Faerder, and Skudesnaes. Heavy rain at Belmullet and some at Valencia during the day; slight falls in some parts of Austria and southern Russia and a large amount at Brindisi.

Temperature showing no important change. Morning readings still exceeding 70° on the western and southern coasts of the Mediterranean, and exceeding 60° over Spain, the south of France, and several parts of the British Islands. As low as 42° at Archangel, 45° at Helsingfors, 47° at St. Petersburg, Riga, Hermanstadt, and Le Mans, 48° at Kharkov and Kieff. Rising during the day to between 70° and 78° over Great Britain, France, and Italy, but not touching 70° at the Irish, German, or Austrian stations. Exceeding 90° in some parts of Algeria.

Wind Southerly and South-Easterly over the British Islands, Easterly in the Channel and west of France; very variable elsewhere, blowing very freshly on our western coasts, but with little strength in the east and south. A moderate to strong breeze from North-East reported in Italy and the Adriatic and a North-Westerly wind at Cagliari, Palermo, and Malta. Brisk gale felt in the extreme west of Ireland later, nothing but light breezes elsewhere.

Barometer highest, 30·1 ins. to 30·3 ins., in a large anticyclone covering Scandinavia, the Baltic, the North Sea, Germany, Austria, and the east of France. Lowest, 29·8 ins. and less, in a large disturbance off the west of Ireland; 29·9 ins. and less over the north-east of Russia, and also in a depression lying off the south of Italy. Falling over the United Kingdom all day, rising over Russia. Gradients for Southerly winds becoming rather steep over our western districts.

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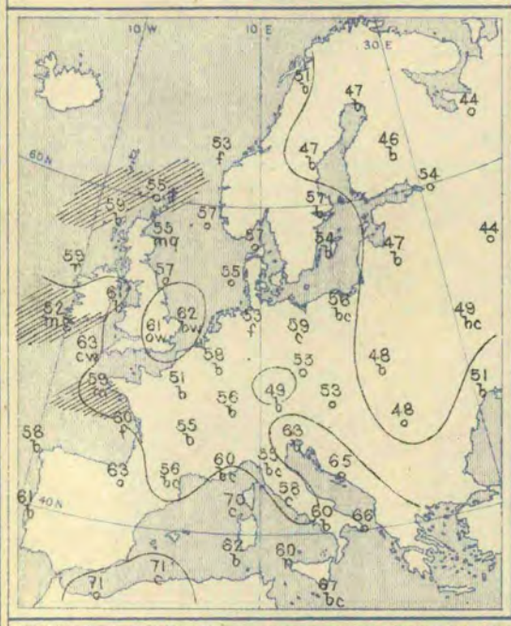
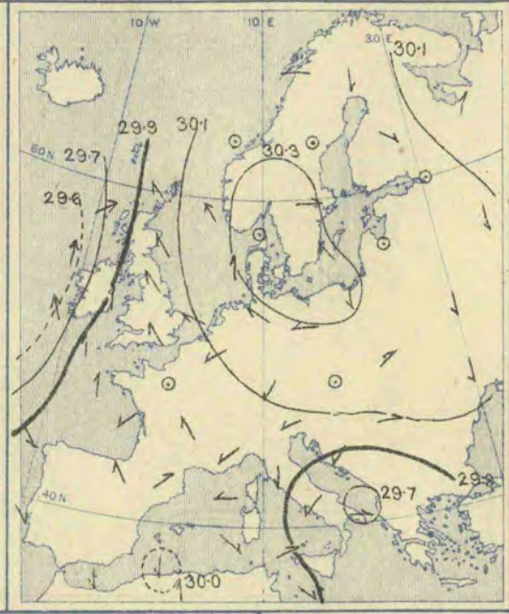
Tuesday, 16th September.

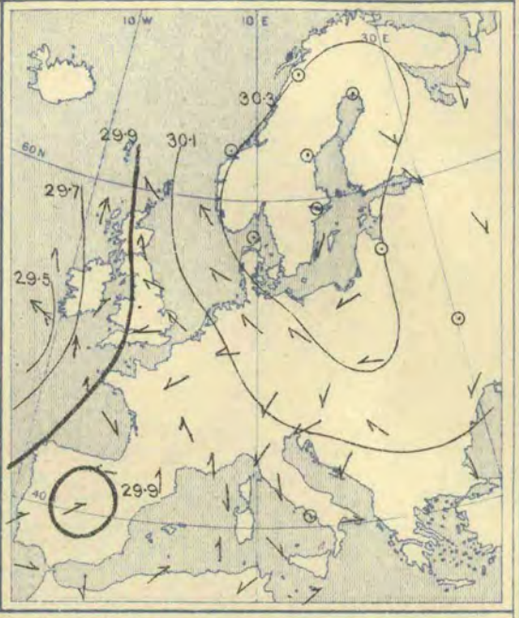
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over the greater part of Europe, but foggy or misty in a few places; still dull over northern and central Russia (but improving), and becoming much less settled than of late in the western parts of the British Islands. Rain subsequently at all our western stations, at Corunna, Brindisi, and in central Algeria; thunderstorm at Rochefort; fine weather continuing elsewhere.

Temperature rising a little in the extreme west, falling over Russia, Poland, and eastern Germany. Morning readings rather below 70° even in south Italy; exceeding 60° at several Mediterranean stations and in many parts of the British Islands. Much lower elsewhere; as low as 44° at Archangel and Moscow, 46° at Uleaborg, Kuopio, and Cracow, 47° at Haparanda, Hernösand, Riga, and Warsaw, 49° at Munich, 51° at Paris. Remaining below 65° over the greater part of Ireland and Germany all day, rising to between 70° and 80° over Great Britain, France, and Italy, and exceeding 80° in some parts of Algeria.

Wind light and anticyclonic over all countries lying to the eastward of the North Sea; South-Easterly, light, over the greater part of England; Southerly, strong, on the Irish coasts and in the Hebrides; North-Easterly in the north of Italy, Northerly at Rome, Westerly at Brindisi, Palermo, and Malta. Blowing a gale from the South-Eastward in the west of Ireland later, remaining light or moderate over Great Britain; veering Northwards in Sicily.

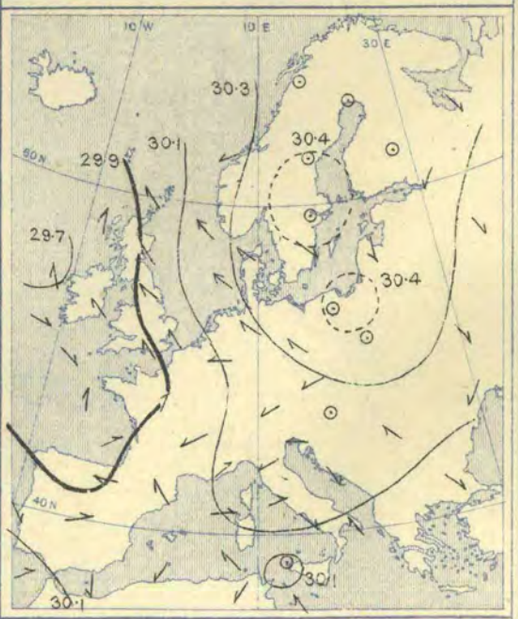
Barometer, 30·0 ins. to 30·3 ins. and more in a large anticyclone covering the whole of Scandinavia, the Baltic, western Russia, and central Europe. Lowest, 29·6 ins. and less, over the west coasts of the British Islands; 29·8 ins. and less in a small depression lying at the mouth of the Adriatic. Falling decidedly in the west of Ireland later, but the depression over the Atlantic not spreading much in an easterly direction. Disturbance near Brindisi moving south-eastwards.

Wednesday, 17th September.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather still fine and bright over nearly the whole of Europe, including the eastern parts of England; changeable and unsettled at all stations situated near the Atlantic coasts of the British Islands, France, and the Spanish Peninsula—rain in several places. Rain falling more or less in all parts of the United Kingdom later, in the west of France—most in Ireland, the north-west of England, and the Hebrides. Thunder and lightning in many parts of England. Heavy rain locally over central Algeria and at Barcelona, and a considerable amount at Constantinople.

Temperature in morning still exceeding 70° at some Algerian stations, and exceeding 60° over southern Europe, the west of France, and some parts of the British Islands, much lower elsewhere. Lowest of all, 40° at Archangel and Uleaborg, 41° at Kharkov, 42° at Warsaw, 44° at Kieff and Lemberg, and below 50° at several other stations over central Europe. Rising later to between 70° and 76° over central England and in Italy, and to between 70° and 80° over France (84° at Biarritz); not touching 70° at the German and most of the Austrian stations.

Wind South-Easterly over the North Sea and greater part of England, as well as in Norway; Southerly over Ireland and Scotland, and moderate to fresh generally. Very light and variable over northern and eastern Europe, as well as over France, light Easterly to South-Easterly over Germany. Falling light and variable over our Islands later, but freshening on the eastern shores of the North Sea.

Barometer highest, 30·2 ins. to 30·4 ins. and more, in a large anticyclone, of complex form, covering the whole of Scandinavia, the Baltic, western Russia, and central Europe. Lowest, 29·7 ins. and less, off the extreme north-western and western coasts of the British Islands, and 29·9 ins. and less in small local disturbances over the Bay of Biscay and the Black Sea. The anticyclone still moving eastwards; shallow depressions appearing over France, the Channel, and England towards evening.

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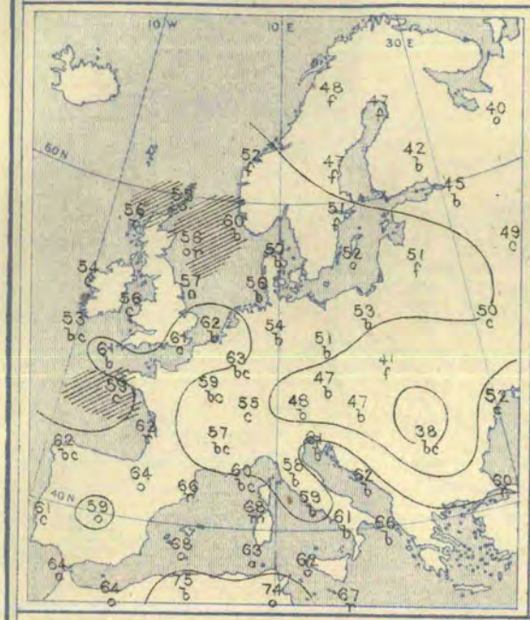
Thursday, 18th September.

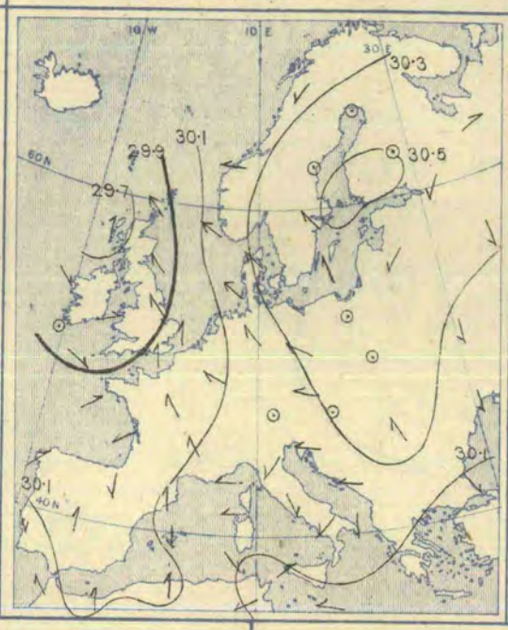
Temperature and Weather. 8 a.m.

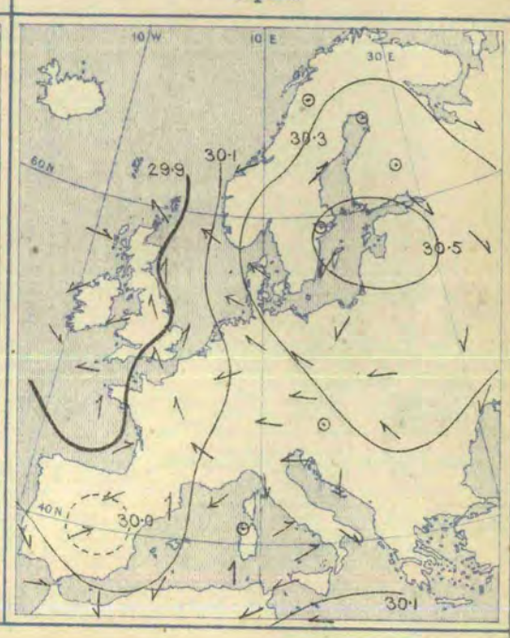


Weather still fine generally over the greater part of Europe, variable and changeable over the British Islands and France, with rain in several places; rain at Constantinople also. Thunderstorms later in France and on several parts of our south and east coasts, rain at times in many parts of both countries and the Netherlands, the falls being heavy in the south and south-west of France and at Dunkirk; a very heavy fall reported at Barcelona also.

Temperature still exceeding 70° in some parts of Algeria, and exceeding 60° at the Mediterranean stations, in the west and north of France, and in some parts of England. Much lower elsewhere—(1) 40° at Archangel, 42° at Uleaborg and Kuoplo, and below 50° over Lapland and the greater part of Russia; (2) 38° at Hermanstadt, 41° at Cracow, 46° at Breslau, and below 50° over Austria and south Germany generally. Rising during day to between 60° and 75° over the British Islands, France, and Germany (changes somewhat fitful and irregular), to between 70° and 80° over Italy, and to between 80° and 90° in many parts of Algeria.

Barometer and Wind. 8 a.m. and 6 p.m.





Wind very variable; light Westerly on our south-west coasts, moderate South-Westerly in the Channel and north of France, South-Easterly over Germany and the North Sea, Southerly in Scotland, light and very variable over northern, eastern, and central Europe. Northerly airs appearing in Ireland later, very variable Southerly breezes over England and France.

Barometer highest, 30·5 ins. to 30·2 ins., in an anticyclone of irregular form covering Finland, the Baltic, Germany, Austria, and Russia, and exceeding 30·1 ins. over the south-west of Spain. Lowest, 29·7 ins. and less, off our north-west coasts, and below 30·0 ins. over the English Channel. Gradients for Southerly winds somewhat steep over the North Sea. Rising a little at our north-western stations, but beginning to fall again in the south-west; changes on the Continent very slight.

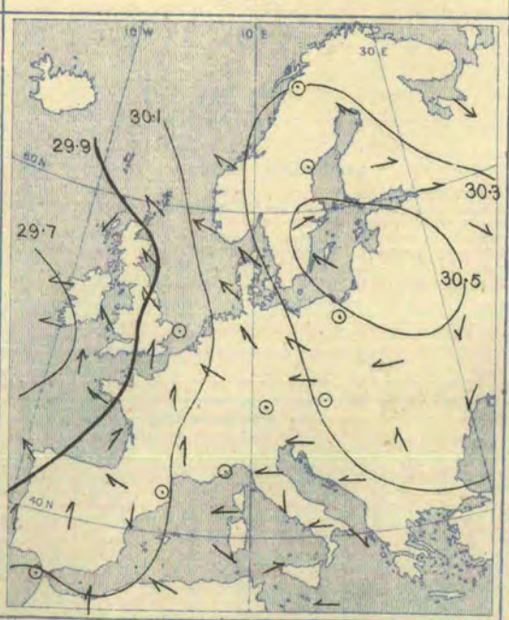
Friday, 19th September.

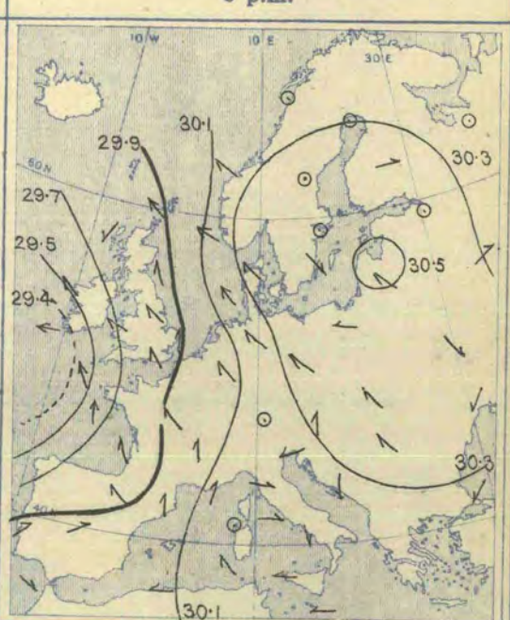
Temperature and Weather. 8 a.m.

Weather fine and bright over the greater part of the Continent, but cloudy or foggy in a few places; changeable over the British Islands (especially in the west and north) with rain at a few stations. Rain falling later in nearly all parts of the British Isles and the west and north of France, but weather remaining fine to the eastward of the North Sea.

Temperature fallen considerably in Russia, slightly and irregularly over England. Still exceeding 70° at some Algerian stations, and exceeding 60° on most of the shores of the Mediterranean, the Bay of Biscay, and English Channel. Below 60° elsewhere, and as low as 35° at Moscow, 40° at Kieff and Hermanstadt, 41° at Odessa, 42° at Kharkov, and below 50° over Austria, Hungary, and south Germany, as well as at Bodö. Rising later to between 65° and 70° over England and Germany, and to between 70° and 80° in Italy, Spain, and the west and south of France. Exceeding 80° in Algeria, the highest reading of all being 84° at Biskra.

Barometer and Wind. 8 a.m. and 6 p.m.





Wind light and anticyclonic over northern, eastern, central, and south-eastern Europe, moderate from between South and South-East over western Europe and the British Islands. The Southerly and South-Easterly winds increasing to a moderate gale on our south-western coasts later; no important change taking place elsewhere.

Barometer highest, 30·2 ins. to 30·5 ins. and more, in a large anticyclone still covering the eastern half of Europe, its central parts being over the Baltic and Baltic Provinces. Lowest, 29·7 ins. and less, over the south-western half of Ireland and the adjacent parts of the Atlantic. Gradients not steep anywhere. Falling in all parts of western Europe later, as a large depression approached our south-western coasts from the Atlantic.

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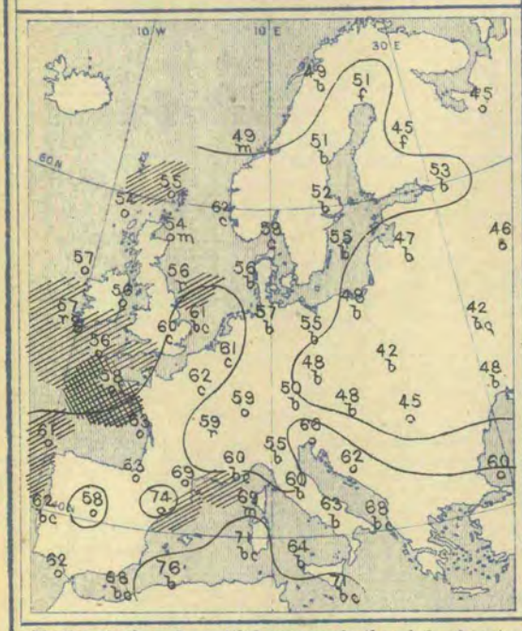
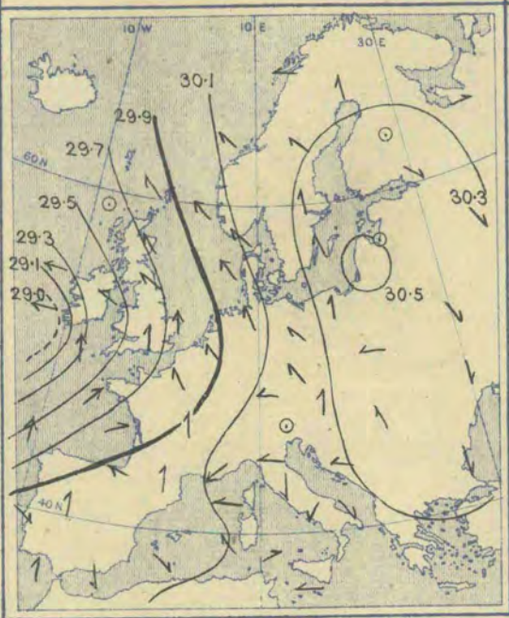
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 20th September.

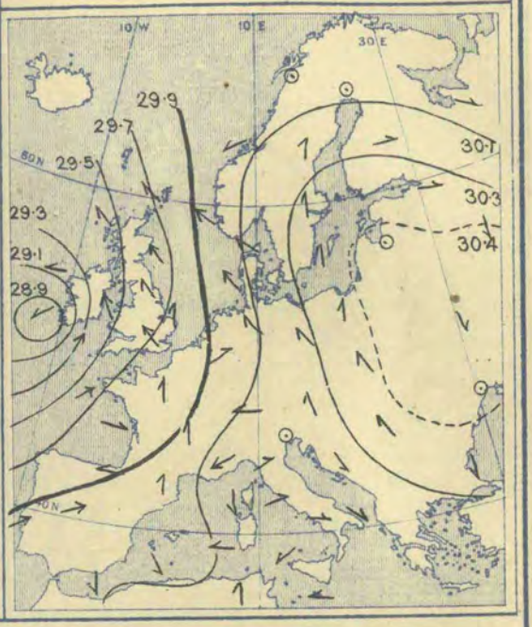
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather cloudy and unsettled over nearly the whole of western Europe, with rain or passing showers in many parts of the United Kingdom and France. Fine in most of the northern, eastern, and central countries, but dull at some of the Russian stations. Thunderstorms occurring later in several parts of England and France, with very heavy rain in the latter country (Marseilles, 3·0 ins.; Lyons, 1·7 ins.).

Temperature highest, 78° at Algiers, 74° at Barcelona, and 71° at Cagliari and Malta; above 60° over southern Europe generally, and also over France, the Netherlands, and the south-east of England. Lowest, 41° at Nicolaieff, 42° at Warsaw, Lemberg, Kiev, and Kharkov, and 43° at Odessa; below 50° at most of the Russian stations, and also in the west of Norway. Daily maxima below 70° in nearly all parts of the United Kingdom, but exceeding that point in southern Europe. Highest readings of all, 86° at La Calle and 84° at Tunis and Biskra.

Wind South-Easterly or Easterly over the greater part of western and central Europe, but Southerly over France and the south of England; strong in force on many of the English and Irish coasts, with a moderate to fresh gale in the south-west. Light and variable in Russia, Italy, Algeria, and the south of Spain. Strong North-Easterly winds setting in later over the extreme south of France.

Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over the Baltic and the western parts of Russia. Lowest, 29·0 ins. and less, in a depression lying off the south-west of Ireland. Gradients rather steep over the Bay of Biscay and our extreme south-west coasts. Depression subsequently advancing slowly north-eastwards, but barometer beginning to rise again at several of the English and French stations.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➤ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

The anticyclone which lay over western Europe at the beginning of the week subsequently moved very slowly in an easterly direction, until on Thursday its central area covered the Baltic Provinces, Sweden, Poland, and the western parts of Russia. As this movement took place depressions began to appear off the west coasts of the United Kingdom, and, moving northwards, caused strong Southerly winds, gales, and rain on our western coasts, while shallow secondary disturbances advancing from the Bay of Biscay and France to England spread the showery weather to nearly all parts of western Europe. Over eastern Europe the weather improved. The daily minimum and morning temperatures increased in value over western Europe as the Southerly wind spread over, but the daily maxima were not so high over the United Kingdom as in the previous week. On Saturday morning the temperature varied from 70° and more over Algeria, and from between 60° and 70° over Spain, the western parts of France, and the south-east of England, to less than 50° over Lapland, Finland, Russia, Poland, and the eastern parts of Germany.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
August 9th	York	—	—	—	—	—	—	—	—	—	—	—	49·3	46
„ 16th	York	—	—	—	—	—	—	—	—	—	—	—	26·7	26
„ 30th	York	—	—	—	—	—	—	—	—	—	—	—	41·5	43
September 13th	Llandudno	75	48	67·1	54·3	60·4	+2·0	129	0	0	—	−0·75	43·3	48

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 39]. *Third Series.* WEEK ENDING SATURDAY, 27TH SEPTEMBER, 1890. [*Price 6d.*
[*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861-80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1836-85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 230.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	66	42	59·6	49·8	54·5	4 above.	88	+30	0	− 1	1806	+154	438	− 73
	1. SCOTLAND, EAST	72	42	62·4	49·6	55·7	5 above.	91	+28	0	− 1	2119	− 6	485	− 59
	2. ENGLAND, N.E.	70	45	64·0	50·9	57·2	4 above.	106	+29	0	− 1	2343	+ 61	389	− 93
	3. ENGLAND, EAST	79	44	66·7	50·7	58·3	4 above.	114	+29	0	0	2604	− 28	468	− 39
	4. MIDLAND COUNTIES	76	41	64·9	49·8	57·0	3 above.	105	+16	0	− 1	2554	− 54	478	− 28
	5. ENGLAND, SOUTH	75	46	65·7	53·2	59·1	4 above.	120	+28	0	0	2802	− 33	305	− 68
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	65	44	60·3	52·3	56·4	4 above.	101	+28	0	− 1	2243	+ 13	325	− 73
	7. ENGLAND, N.W.	68	43	62 3	52·7	57·3	3 above.	107	+29	0	0	2429	+ 46	302	− 81
	8. ENGLAND, S.W.	75	43	62·9	52·3	57·3	2 above.	107	+14	0	0	2630	− 60	245	+ 11
	9. IRELAND, NORTH	69	39	60·2	51·4	55·6	3 above.	95	+21	0	− 1	2331	+ 18	294	− 56
	10. IRELAND, SOUTH	72	43	62·4	52·1	57·0	2 above.	105	+22	0	− 1	2627	+ 20	224	− 15
	— CHANNEL ISLANDS	67	49	62·5	54·3	58·2	(0 average)	113	+ 8	0	0	2911	+ 10	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 230.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	6	16	2 less	190	+25	35·9	− 0·5	14	17	920	−139	23	− 4
	1. SCOTLAND, EAST	5	13	4 less.	160	+18	22·2	− 1·3	16	20	1100	−109	30	− 3
	2. ENGLAND, N.E.	4	15	2 less.	137	0	18·4	− 1·7	27	33	1072	− 38	30	− 1
	3. ENGLAND, EAST	2	12	5 less.	138	− 1	17·7	− 1·0	33	38	1342	− 12	38	0
	4. MIDLAND COUNTIES	4	15	3 less.	133	− 3	16·8	− 4·8	27	32	1167	− 40	33	− 1
	5. ENGLAND, SOUTH	3	15	2 less.	132	+ 1	20·7	+ 0·8	27	33	1265	− 33	35	− 2
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	6	15	4 less.	164	+10	36·2	− 1·9	14	17	1154	− 16	32	0
	7. ENGLAND, N.W.	4	14	6 less.	154	+11	25·9	− 0·9	17	20	1096	− 80	30	− 2
	8. ENGLAND, S.W.	4	14	7 less.	156	+ 7	27·0	− 4·0	19	23	1288	−111	36	− 3
	9. IRELAND, NORTH	7	19	(0 average)	181	+10	25·3	− 0·9	8	10	1085	+ 3	30	0
	10. IRELAND, SOUTH	4	14	5 less.	171	+12	29·7	+ 0·7	17	21	1178	− 62	33	− 1
	— CHANNEL ISLANDS	3	14	5 less.	153	− 9	23·9	+ 1·0	30	36	1557	−102	44	− 2

General Remarks.

Weather has been very dull, with frequent rain, over Ireland and Scotland; over England, however, after being unsettled, with rain and thunderstorms during the earlier days of the week, it became fine and bright generally.

Temperature has just equalled the mean in the "Channel Islands," but in all other districts it has been above the excess having ranged from 2° in "England S.W." and "Ireland S." to 5° in "Scotland E." The highest of the maxima were registered either on the 26th or 27th, when the thermometer rose to between 65° and 72° in Scotland, from 69° to 78° in Ireland, and from 68° to 78° over England. The lowest of the minima, which were recorded on rather irregular dates, varied from 39° in "Ireland N." and 41° in the "Midland Counties" to 48° in "England N.W." and 49° in the "Channel Islands."

Rainfall has been equal to the mean in "Ireland N.," but less in all other parts of the Kingdom.

Bright Sunshine shows a still further decrease; over Ireland, Scotland, and all the western parts of England it has been very deficient, the percentage of the possible duration having ranged from 10 to 23; over southern, central, and eastern England the percentage has ranged from 32 to 39.

Barometer and Wind.—At the commencement of the period a deep depression (noticed in last week's Report) was moving slowly north-eastwards over the extreme north-western parts of the Kingdom, causing strong winds or gales from the South-Westward and Southward. As it passed off some shallow subsidiary disturbances appeared over us, but these soon passed away, the barometer rose decidedly and became high, and during the remainder of the week no depressions appeared over our Islands. The wind was generally light or moderate from the Westward, but in the extreme north-west and north it occasionally blew with the force of a strong breeze or moderate gale.

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III.—DATA from which the SUMMARY on page 229 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	59	47	57·4	49·3	53·2	+3·4	78	0	5	0·56	—0·32	*	*
	Stornoway ℌ	60	42	58·7	48·6	53·4	+3·8	80	0	7	0·83	—0·19	20·8	25
	Wick ℌ	65	45	61·6	50·1	55·6	+5·6	95	0	4	0·49	—0·15	*	*
	Lairg ℌ	66	44	60·3	48·1	53·9	+4·6	83	0	6	0·80	—0·05	*	*
	Glencarron ℌ	64	46	58·7	49·9	54·1	+4·5	85	0	6	4·64†	+2·92	?	?
	Fort Augustus ℌ	65	45	61·5	50·9	56·0	+4·4	98	0	6	1·18†	?	10·4	13
	Fort William ℌ	62	47	59·3	51·7	55·3	+3·1	93	0	7	2·94	+1·21	9·9	12
1. SCOTLAND, E.	Nairn ℌ	65	43	63·3	48·3	55·4	+4·4	94	0	4	0·28	—0·35	*	*
	Aberdeen ℌ	72	46	64·1	50·9	57·2	+6·2	106	0	3	0·53	—0·20	30·2	36
	Braemar ℌ	62	42	57·6	47·7	52·4	+4·4	73	0	6	0·27	—0·65	9·7‡	12‡
	Ochtertyre ℌ	66	43	63·1	49·7	56·1	+4·8	99	0	4	0·26	—0·69	*	*
	Leith ℌ	66	48	64·1	52·0	57·8	+5·7	111	0	3	0·27	—0·31	11·3‡	14‡
	Marchmont ℌ	65	43	62·0	48·7	55·0	+5·2	91	0	7	0·44	—0·39	14·3	17
2. ENGLAND, N.E.	Alnwick Castle	65	46	62·0	50·3	55·9	+4·3	97	0	3	0·17	—0·53	*	*
	Durham	70	47	64·8	50·4	57·3	+4·6	107	0	4	0·53	—0·07	26·2	32
	Shields	68	47	64·1	50·7	57·1	+5·2	106	0	4	0·35	—0·25	*	*
	Scarborough ℳ	69	49	63·8	51·4	57·3	+3·8	107	0	3	0·81	+0·11	30·3‡	37‡
	York	68	45	65·1	48·9	56·6	+3·1	102	0	4	0·71	+0·03	25·8	31
	Spurn Head	67	52	64·3	53·6	58·7	+4·9	117	0	3	0·17	?	*	*
3. ENGLAND, E.	Hillington ℳ	74	44	65·0	48·6	56·4	+2·8	101	0	2	0·06	—0·64	?33·6	? 40
	Yarmouth	72	50	65·7	53·0	59·1	+4·1	120	0	2	0·10	—0·62	*	*
	Geldeston	75	48	68·0	51·5	59·4	+4·5	122	0	1	0·08	—0·57	42·4	51
	Cambridge	79	47	69·7	50·1	59·4	+3·5	122	0	0	—	—0·58	28·3	34
	Rothamsted	75	47	65·2	50·1	57·3	+2·5	107	0	3	0·83	+0·13	26·0	31
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	72	41	66·3	47·6	56·5	+2·4	102	0	3	0·61	—0·04	29·0‡	35‡
	Loughborough	74	49	66·1	51·9	58·7	+4·9	117	0	5	0·75	+0·04	31·0‡	37‡
	Cheadle ℳ	71	45	62·3	48·9	55·3	+2·7	93	0	4	0·25	—0·60	*	*
	Churchstoke ℳ	70	45	63·5	49·1	56·0	+2·5	98	0	4	0·15	—0·59	29·7	36
	Hereford ℳ	75	43	65·9	50·2	57·7	+3·7	110	0	4	0·16	—0·56	*	*
	Cirencester	72	43	64·4	48·1	55·9	+1·4	97	0	4	0·81	0·00	21·4	26
	Oxford	76	50	65·6	52·7	58·8	+4·0	118	0	2	0·69	+0·02	23·0	28
5. ENGLAND, S.	London	73	49	67·9	52·3	59·7	+3·5	124	0	3	0·53	—0·07	24·7‡	30‡
	Strathfield Turgiss ℳ	75	47	66·7	50·8	58·4	+3·0	115	0	3	0·42	—0·24	*	*
	Dungeness	69	48	66·1	55·9	60·8	+4·9	132	0	2	0·13	—0·57	28·8	35
	Hastings (St. Leonards)	67	49	65·4	53·6	59·2	+3·2	120	0	2	0·20	—0·55	32·9	40
	Southampton	73	49	66·2	52·9	59·3	+4·1	121	0	4	0·81	+0·05	27·2	33
	Hurst Castle	67	52	65·1	55·6	60·1	+4·2	127	0	2	0·56	—0·22	*	*
	Stowell ℳ	69	46	62·2	51·1	56·4	+1·6	101	0	4	0·80	?	22·7‡	27‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	62	45	60·2	51·0	55·4	+2·7	95	0	7	4·36†	+2·61	*	*
	Glasgow	61	47	59·5	51·3	55·2	+3·1	92	0	6	0·75	—0·22	3·4	4
	Ardrossan	63	52	61·4	53·7	57·4	+5·4	108	0	4	0·54	—0·38	*	*
	Glenlee ℌ	64	47	61·3	52·5	56·9	+4·3	103	0	7	1·36	+0·06	*	*
	Douglas (Isle of Man)	65	44	61·7	53·2	57·3	+5·2	107	0	6	0·36	—0·57	24·0	29
7. ENGLAND, N.W.	Newton Reigny	66	48	62·2	51·1	56·4	+4·9	101	0	5	0·54	—0·27	20·9	25
	Stonyhurst	62	49	60·4	51·8	55·9	+3·3	97	0	6	0·98	—0·22	16·8	20
	Blackpool ℳ	64	?	61·4	?	?	?	?	0	5	0·28	—0·67	12·2	15
	Manchester	67	49	62·1	51·3	56·4	+2·9	101	0	4	0·14	—0·84	*	*
	Liverpool Obsy. (Bidston)	68	50	63·4	53·7	58·3	+3·4	114	0	4	0·16	—0·66	*	*
	Llandudno ℳ	67	52	62·8	54·3	58·4	+2·5	115	0	3	0·07	—0·74	17·0	20
	Holyhead	66	52	63·0	54·1	58·3	+2·6	114	0	3	0·37	—0·47	*	*
8. ENGLAND, S.W.	Llandovery	72	45	65·1	49·7	57·0	+2·5	105	0	5	0·79	—0·41	*	*
	Pembroke	62	53	59·7	55·0	57·2	+3·4	106	0	4	0·71	—0·21	16·5	20
	Arlington (N. Devon)	63	43	60·4	50·3	55·1	+0·7	92	0	5	0·55	—0·70	*	*
	Cullompton ℳ	75	43	64·6	49·7	56·8	+1·2	104	0	4	0·37	—0·54	15·3	18
	Falmouth	65	52	62·0	53·0	57·3	+0·7	107	0	3	0·21	—1·03	25·0	30
	Plymouth	73	50	65·4	54·9	59·9	+3·3	125	0	2	0·04	—0·91	19·6	24
	Prawle Point	68	52	63·1	53·4	58·0	+3·7	112	0	4	0·12	?	*	*
9 IRELAND, N.	Malin Head	60	47	58·4	52·0	55·1	+3·7	92	0	7	1·18	?	*	*
	Londonderry	63	46	60·8	51·3	55·8	+3·5	97	0	7	1·49	+0·58	*	*
	Mullaghmore	61	50	59·1	53·3	56·1	+2·8	99	0	7	0·72	—0·34	*	*
	Belmullet	60	52	58·4	53·7	55·9	+2·9	97	0	7	0·76	?	*	*
	Markree Castle	66	43	60·2	50·6	55·2	+1·9	92	0	6	1·15	+0·37	8·3	10
	Brookeborough	65	39	59·8	48·4	53·9	+0·9	83	0	7	0·65	?	*	*
	Armagh	65	43	60·7	50·8	55·8	+2·4	95	0	6	0·49	—0·23	8·2	10
	Donaghadee	69	49	64·3	52·6	58·2	+5·7	113	0	5	0·20	—0·55	*	*
	Edgeworthstown	64	41	60·4	50·1	55·0	+0·9	91	0	7	1·07	+0·29	*	*
10. IRELAND, S.	Dublin	69	48	63·5	53·6	58·3	+4·7	114	0	3	0·13	—0·47	26·8	32
	Parsonstown	65	45	60·7	51·1	55·7	+1·3	96	0	4	1·04	+0·25	12·1	15
	Kilkenny	72	43	63·0	51·1	56·8	+2·3	104	0	4	0·47	—0·28	*	*
	Waterford	72	45	64·7	50·9	57·5	+3·1	109	0	4	0·30	—0·62	*	*
	Roche's Point	67	50	63·4	52·9	57·9	+3·1	111	0	1	0·01	—0·99	*	*
	Valencia	63	51	61·1	53·7	57·2	+1·6	106	0	5	0·37	—0·80	12·1	15
	Killarney	67	49	62·1	51·1	56·3	+1·3	100	0	3	0·47	?	*	*
	Foynes	63	49	60·5	52·5	56·3	+1·4	100	0	6	0·56	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	63	53	60·9	53·4	57·0	—0·8	105	0	2	0·16	—0·72	*	*
	Jersey	67	49	64·1	55·1	59·4	+1·2	122	0	4	0·56	—0·31	29·9	36

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

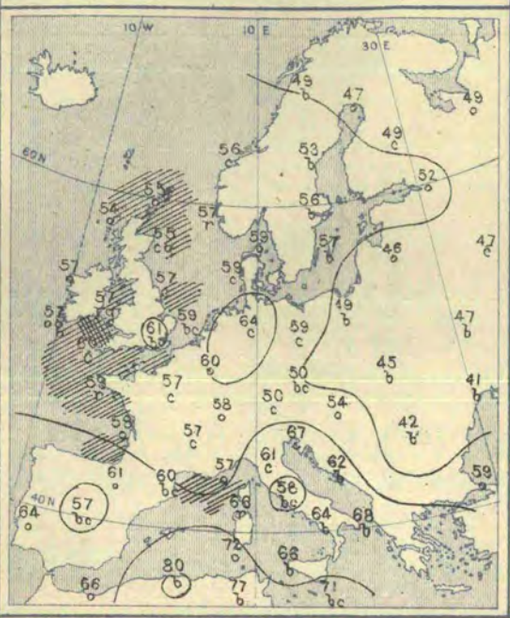
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," and there being no averages available for the second of these stations, the weekly amounts are not used in calculating the "Difference from the Mean for the Week" in those districts.

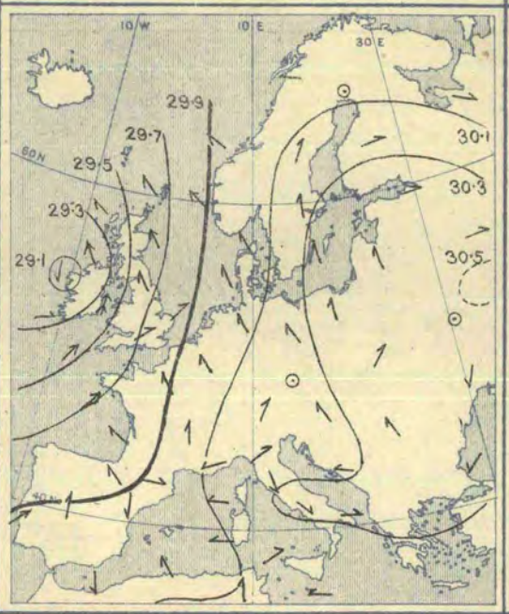
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 21st September.

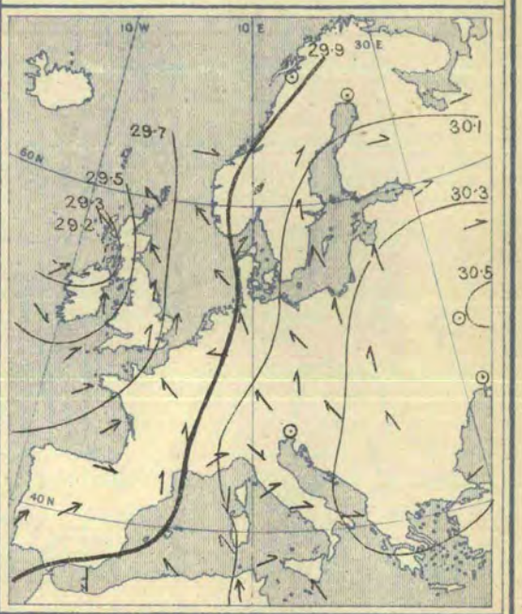
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather changeable and showery in many parts of the United Kingdom, and dull in France, with heavy rain in the south of that country. Fine in most other parts of Europe, but dull in the north of Russia. Thunderstorms occurring in France later and heavy rain falling in several of the more western countries, the largest amounts being 1·7 ins. at Madrid, 1·5 ins. at Flushing, and 0·9 ins. at Parsonstown. Lightning seen over England in evening.

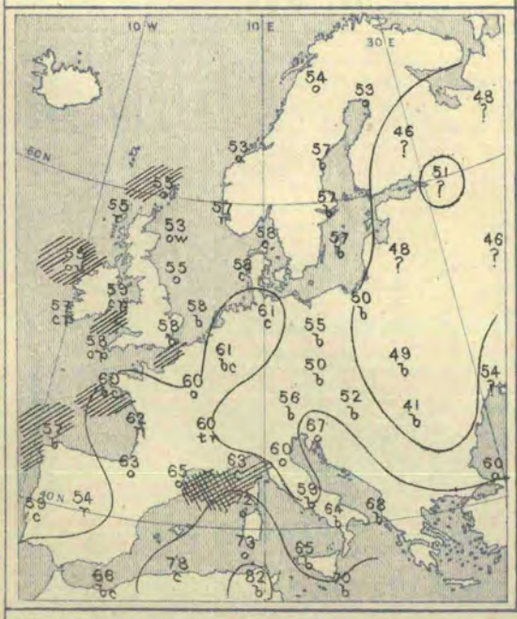
Temperature highest, 80° at Algiers, 77° at La Calle, 75° at Barcelona, and 73° at Tunis; above 60° in most parts of southern Europe, and reaching that point over the Netherlands and the extreme south-east of England. Lowest, 41° at Odessa, 42° at Hermanstadt, 45° at Cracow and Lemberg, and 46° at Riga and Warsaw; below 50° in some parts of Lapland and Finland. Rising during day to between 60° and 68° in our Islands, to 70° or more over Germany, France, and southern Europe, and to 80° or more in Algeria; the highest reading of all being 91° at La Calle.

Wind South-Westerly over the southern parts of Ireland and England, strong in force at the Channel stations; Southerly or South-Easterly in nearly all other parts of western Europe, and also over the more central countries; light to fresh in force generally, but strong to a gale over the Irish Sea. Light from the South-Westward or Westward over the north of Russia; variable over Italy, Algeria, and the south of Russia. Subsequently veering to the South-Westward or Westward in the west of France. No important change occurring elsewhere.

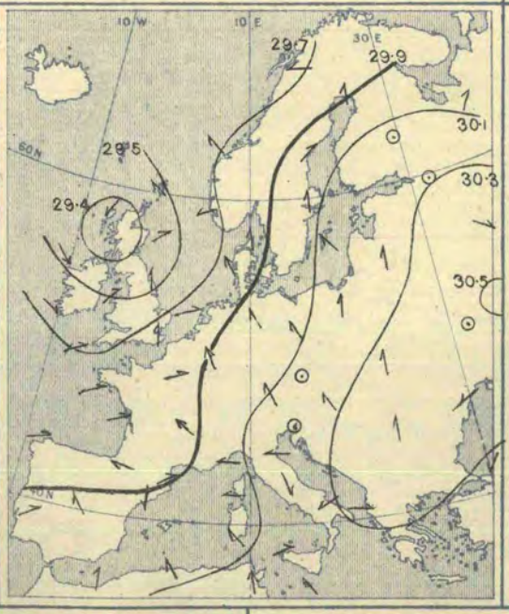
Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over the central and southern parts of Russia. Lowest, 29·1 ins. and less, in a depression lying over the north-west of Ireland. Gradients rather steep over our Islands, but slight elsewhere. Depression in west subsequently moving slowly northwards and partially filling up; shallow disturbances beginning to appear over the Channel and Bay of Biscay

Monday, 22nd September.

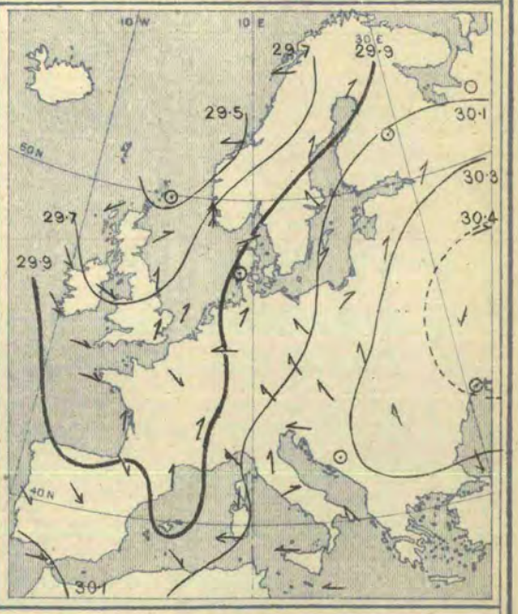
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather changeable and showery in most parts of western Europe, and a thunderstorm at Lyons; fine in Sweden, Germany, Austria, Italy, and Algeria. Thunderstorms occurring during day in most parts of Belgium, France, and Algeria, with very heavy rain in many places—1·4 ins. at Biarritz, 1·5 ins. at Brussels, and 1·9 ins. at Lyons and Besançon; weather finer over the more eastern countries.

Temperature highest, 82° at La Calle, 78° at Algiers, and 75° at Barcelona and Tunis; above 60° in most parts of France, Italy, and the Netherlands, but below that point in Spain. Lowest, 41° at Kharkov and Hermanstadt, 43° at Cracow, 45° at Warsaw, and 46° at Kuoplo and Moscow, below 50° at many of the Scotch stations. Daily maxima below 60° in many parts of Ireland and Scotland, but thermometer rising to between 65° and 68° over central and eastern England, and to 75° or more in Germany, Italy, and the south of France, and to nearly 90° over Algeria.

Wind moderate or fresh from the South-Westward over England, and light from the same quarter over the greater part of France and Spain; light from the South-Eastward over the north of our Islands, and also in Scandinavia, Denmark, Germany, and the Baltic; North-Westerly in the north of Ireland; variable in Italy, strong from the Southward in Algeria. Subsequently veering to the North-Westward all over Ireland and in the west of England.

Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over the central and southern parts of Russia. Lowest, 29·4 ins. and less, in a shallow depression lying over the west of Scotland; trough of a "V"-shaped secondary system extending southwards over our west and south-west coasts and the Bay of Biscay. Depression subsequently travelling north eastwards across the north of Scotland and partially filling up.

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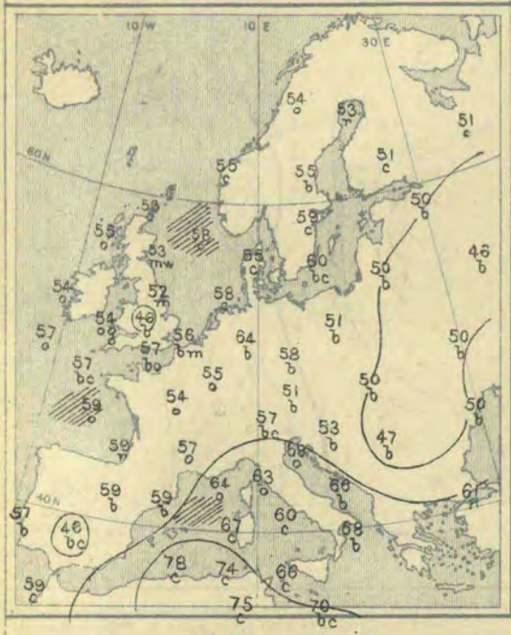
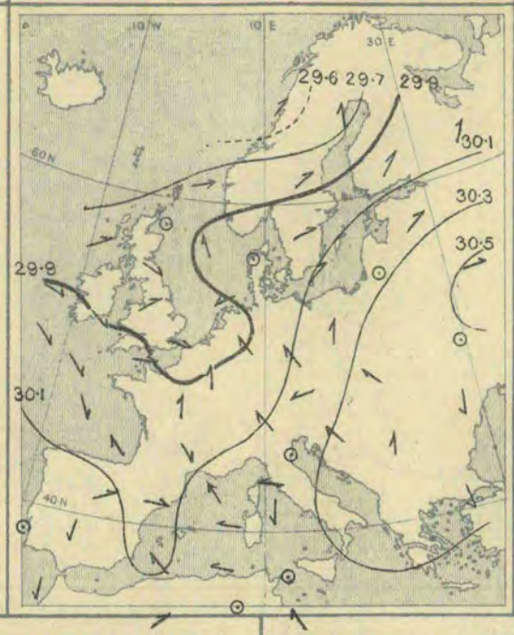
Tuesday, 23rd September.

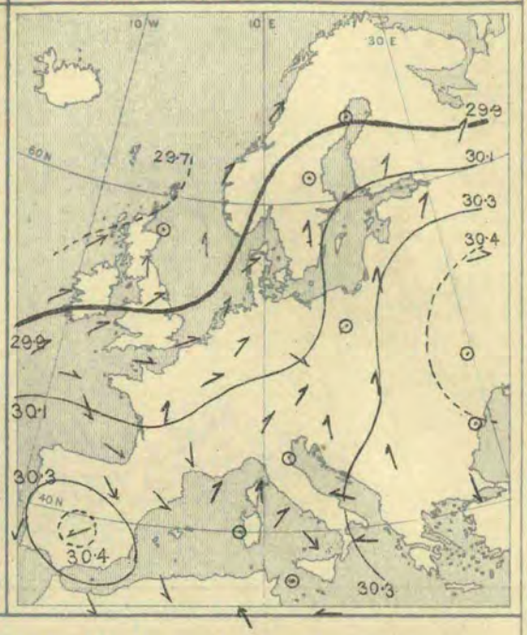
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Russia, Poland, Germany, Austria, and south-eastern Europe generally, as well as over the Spanish Peninsula; cloudy, very changeable and unsettled elsewhere, with rain in several localities, thunder at Perpignan, and an unsettled appearance in most places. Rain falling subsequently in all parts of western Europe—very heavily in the south of France (2·2 ins. at Croisette and 2·0 ins. at Nice). Thunderstorms occurring in evening in the south and south-east of England.

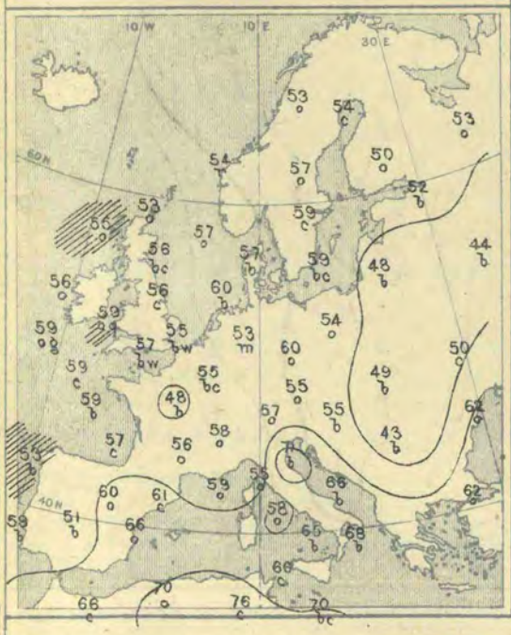
Temperature falling slightly over western Europe, rising slightly in the east; morning readings, 70° and more at Malta, La Calle, and Cagliari only, above 60° at most of the Mediterranean stations, and above 50° over north-western Europe generally. As low as 44° at Odessa, 45° at Kharkov, 46° at Moscow, and also at Madrid, 47° at Hermanstadt and Warsaw, 48° at Uleaborg. Rising to between 60° and 68° over England later, and to 70° and more in many parts of France, Germany, and southern Europe. Succeeding night cool over England.

Wind mainly Southerly and South-Easterly over the northern and eastern countries of Europe, North-Westerly on the western coasts of the British Islands, very variable elsewhere; light to moderate in force generally. Subsequently backing to the South-Westward at our own western stations, but veering to the North-Westward in the west of France.

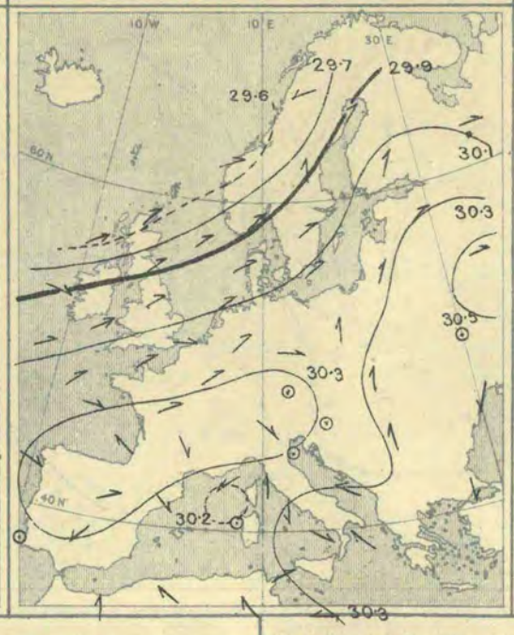
Barometer highest, 30·2 ins. to 30·5 ins., in a large anticyclone lying over eastern and south-eastern Europe; 30·2 ins. and more in another system covering the Iberian Peninsula and adjacent parts of the Atlantic. Lowest, 29·6 ins. and less, over the western parts of Lapland, 29·8 ins. and less over Scotland and the north-east of England, and very little above 30·0 ins. even over the southern half of France. Beginning to fall a little in Scotland and Ireland later, rising decidedly over the southern parts of the Continent.

Wednesday, 24th September.

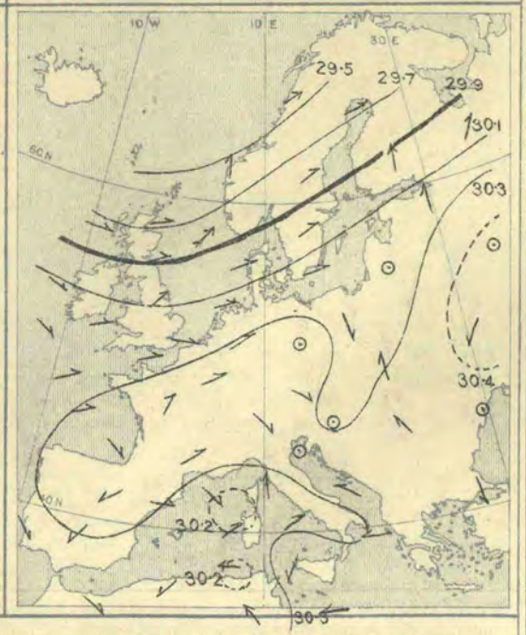
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull at several of our own western and northern stations, as well as in Norway, Germany, and the south of France; rain falling at Christiansund and also at Toulon, and passing showers at Malin Head, Pembroke, Jersey, and Hurst Castle. Fine in nearly all other parts of Europe, but with fog or mist in places. Showers falling during day in nearly all the more western and northern parts of the United Kingdom, and heavy rain in the south of France and north of Italy (1·3 ins. at Nancy, Belfort, and Nice, and 1·5 ins. at Turin).

Temperature highest, 76° at Tunis, 75° at Sanguinaire, 71° at Trieste, and 70° at Algiers and Malta; above 60° at nearly all the Mediterranean stations, and above 55° in most parts of the United Kingdom. Lowest, 43° at Hermanstadt, 44° at Moscow, 45° at Uleaborg, and 46° at Nicolaieff; below 5°° in some parts of central France. Subsequently rising to 65° or a little above in many parts of Great Britain, to 70° or more in Spain, Italy, and the west and south of France, and to 80° or more in Algeria.

Wind light to fresh from the South-Westward over the whole of north-western and northern Europe; light from the Southward over Austria and eastern Germany. Light from North-West over south Germany and the east and south of France; variable in Italy; light or moderate from the South-Eastward in Algeria. Subsequently veering to the Westward in nearly all parts of the United Kingdom. South-Westerly wind increasing to a gale in the south of Norway.

Barometer highest, 30·4 ins. to 30·5 ins. and upwards, in a large anticyclone lying over the central and southern parts of Russia; 30·3 ins. and upwards in another system lying over France, south Germany, and the north of Spain. Lowest, 29·6 ins. and less, in a large area lying to the northward of our Islands and the westward of Norway. Low-pressure system subsequently moving north-eastwards and barometer rising in all parts of the United Kingdom.

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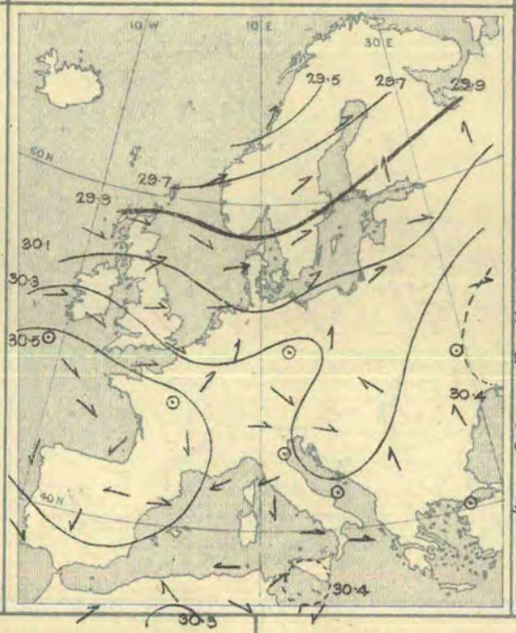
II.—SUMMARY OF WEATHER OVER EUROPE.

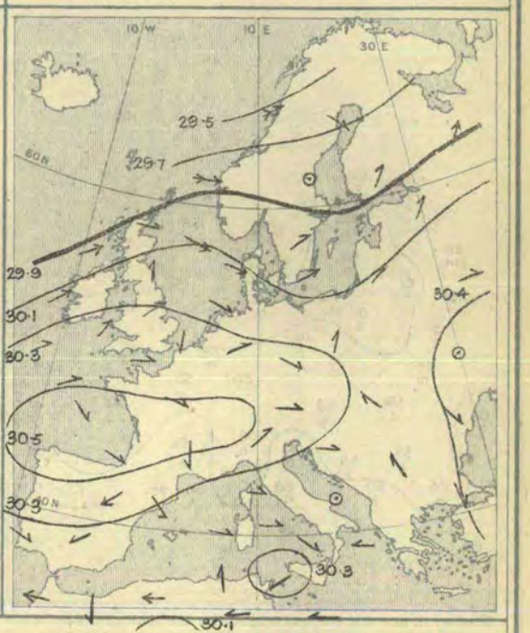
Thursday, 25th September.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fair over the greater part of Europe, but dull at several of the English and Irish stations, and rainy in the west and south of Norway, as well as in the east of France and some parts of Algeria. Rain falling later in all the more northern parts of the United Kingdom, and also spreading eastwards from Scandinavia to northern Russia. Solar and lunar halos seen at some of the English stations; thunderstorms occurring in Saxony.

Temperature highest, 73° at Cagliari, 71° at Tunis, and 70° at Oran and Aumale; above 60° over nearly the whole of southern Europe, as well as at some of the Channel Stations. Lowest, 46° at Moscow, 47° at Kharkov, 48° at Bodö, and 49° at Hermanstadt; varying between 50° and 54° in the northern parts of our Islands. Daily maxima over the south-east of England varying between 65° and 70°, but thermometer remaining below 65° in most other parts of the Kingdom—Rising to between 75° and 80° in many parts of southern and eastern Europe.

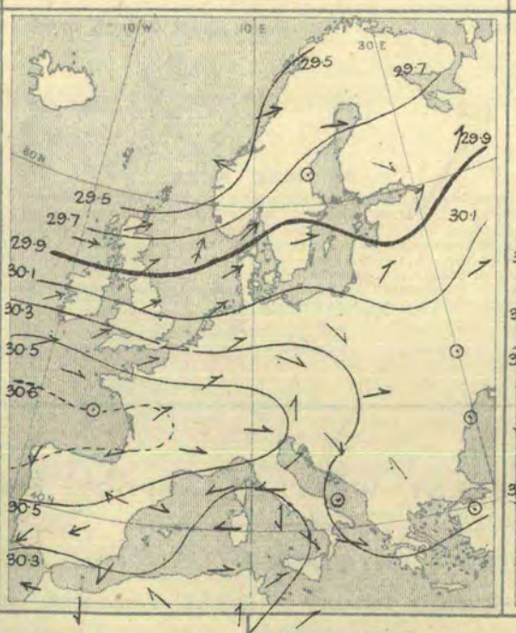
Wind light from the Westward in our Islands, moderate to strong from the South-Westward over Scandinavia, Denmark, and the Baltic; light from the Southward in the north of Russia. Light to fresh from between East and North over Spain and the south of France, and from the South-Eastward in Algeria. Variable over Germany and Austria and the southern parts of Italy and Russia. Subsequently backing to the South-Westward in the extreme north-west of our Islands and increasing to a moderate gale.

Barometer highest, 30·4 ins. and upwards, in an anticyclone lying over France, the Bay of Biscay, the north of Spain, and the south-west of our Islands, and also in another system lying over Russia. Lowest, 29·5 ins. and less, in a depression lying off the north-west of Norway. New disturbance approaching our north-west coasts later, and barometer falling quickly in the west of Scotland and north of Ireland.

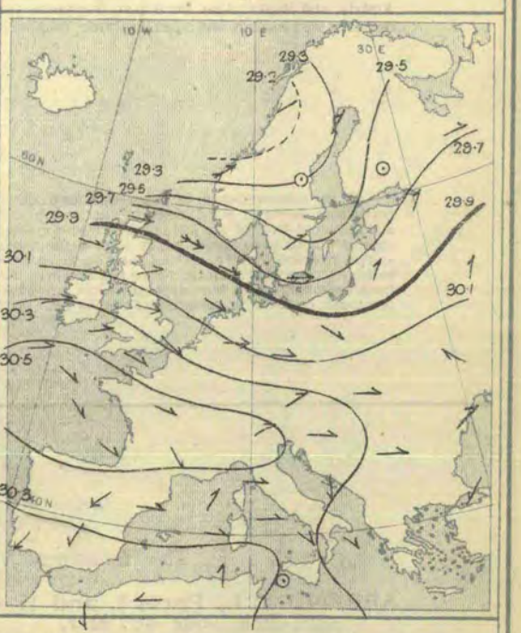
Friday, 26th September.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright over France, Spain, and Italy, as well as in Sweden, Finland, and the south of Russia. Cloudy or overcast elsewhere, with rain in Norway, Denmark, the extreme north-west of our Islands, and the south-east of England. Sky clearing later in the east and south-east of Great Britain, but rainy weather prevailing in Sweden and Norway, and spreading to the north of Russia; some rain in Algeria also.

Temperature highest, 72° at Barcelona, 71° at Aumale, 70° at Oran and Tunis; above 65° at most of the Mediterranean stations and above 60° even in Scotland. Lowest, 43° at Bodö and Hernösand, 44° at Haparanda, 45° at Kharkov, and 46° at Uleaborg, Kuopio, and Christiansund; below 50° in some parts of central France. Subsequently rising to between 65° and 70° in many parts of the United Kingdom and reaching 72° at Aberdeen. Exceeding 70° over Hungary, Italy, and the greater part of France, and exceeding 80° over Algeria.

Wind South-Westerly or Westerly over nearly the whole of northern and north-western Europe, but Southerly or South-Easterly in the west of Norway; strong to a gale in force over the North Sea and the northern parts of our Islands. Light from the North-Westward in eastern Germany, moderate to fresh from the North-Eastward in Spain and the south of France; variable in Italy, Austria, and the south of Russia. Gale in north veering to South-West later and spreading to the Baltic.

Barometer highest, 30·4 ins. to 30·6 ins. and upwards, in an anticyclone lying over the Bay of Biscay, France, the north of Spain, and south of our Islands. Lowest, 29·5 ins. and less, in a large depression lying to the northward of our Islands and the westward of Norway. Gradients steep over Scandinavia and the northern parts of the United Kingdom. Depression subsequently moving eastwards and spreading over south of Sweden; barometer rising again briskly in the north of our Islands.

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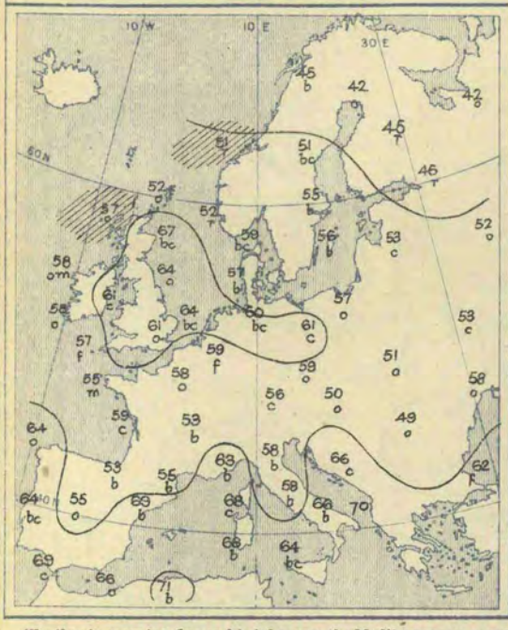
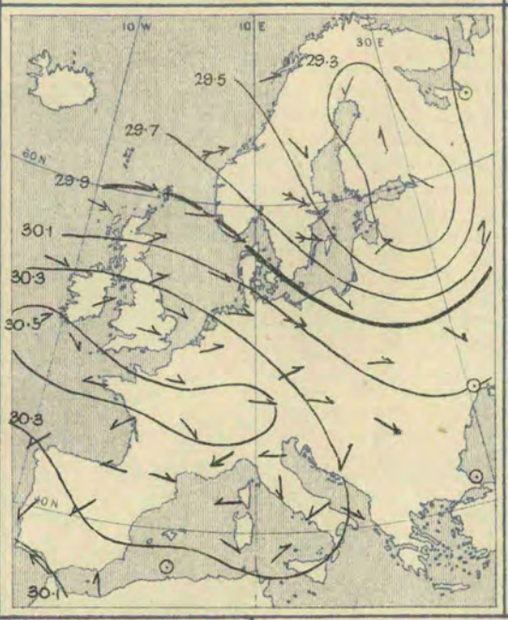
II.—SUMMARY OF WEATHER OVER EUROPE.

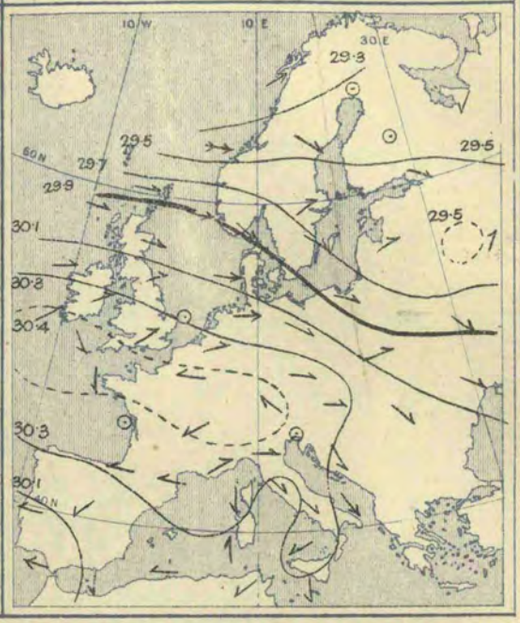
Saturday, 27th September.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.







Weather in morning fine and bright over the Mediterranean, many parts of south-western Europe, and in Sweden and Denmark; cloudy or overcast in other places, foggy in the Channel and on our south-western coasts, rainy in Norway and Finland, rather showery at some of our north-western stations. Showers later at many of our western and northern stations, and a considerable quantity of rain over northern Europe; weather fair or fine elsewhere.

Temperature as high as 70° or more at Brindisi, Sfax, and Aumale only; exceeding 60° in the south of France, on the Spanish coasts, in western Germany, and in many parts of Great Britain (67° at Aberdeen); much lower elsewhere. As low as 42° at Archangel and Haparanda, and 45° at Bodö and Kuopio, 49° at Hermanstadt, 50° at Kharkov, 51° at Lemberg. Rising to between 74° and 79° over Italy and England later, to between 75° and 85° in the west and south of France and over Algeria, but not exceeding 46° in Lapland.

Wind blowing a gale from West and North-West over Scandinavia, strong over the Baltic and north Germany; moderate Westerly in our Islands generally, but very light and variable over the southern countries and France; mainly North-Easterly over Spain and the south of France, Southerly, light, over northern Russia. Backing to the South-Westward in Ireland later and gale over the Baltic subsiding.

Barometer highest, 30·4 ins. to 30·5 ins. and more, over France, the Bay of Biscay, and southern parts of our Islands. Lowest, 29·3 ins. and less, in a complex depression over the Gulf of Bothnia, and 30·1 ins. in extreme south of Spain. Depression in north filling up later, but new one beginning to advance towards north of Norway from north-westward.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of the week a large anticyclone lay over Russia and eastern Europe, while a depression of diminishing intensity travelled north-eastwards from the north-west coasts of our Islands to the west of Norway. The winds were therefore South-Easterly or Southerly in most parts of Europe, but over Spain, the Bay of Biscay, and the south-west of our Islands they veered gradually from the Southward to the Westward and North-Westward. Changeable weather prevailed in most of the western countries, with exceedingly heavy rain in the south of France, and with thunderstorms over Great Britain and France generally. On the 23rd, however, a new anticyclonic system appeared over Spain; and, later on, this spread northwards and eastwards, while the high-pressure area over Russia gradually gave way. Large depressions now began to travel from the Atlantic across the northern parts of Scandinavia, and Westerly winds set in over the whole of northern and north-western Europe; on the 26th and 27th fresh to strong gales were experienced in Scandinavia. The weather was showery in the extreme north and north-west, but fine in nearly all other localities. Heavy rains continued, however, in the south of France until the 25th, when the weather then improved.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June,** *price* 4d. *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 40]. *Third Series.* WEEK ENDING SATURDAY, 4TH OCTOBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1856–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 236.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	60	33	53·3	43·7	48·4	1 below.	45	− 6	0	− 2	1851	+151	438	− 74
	1. SCOTLAND, EAST -	66	35	57·3	45·1	51·0	2 above.	63	+ 2	0	− 3	2182	− 1	485	− 60
	2. ENGLAND, N.E. - -	66	36	60·9	49·1	54·8	3 above.	90	+23	0	− 2	2433	+ 91	389	− 93
	3. ENGLAND, EAST -	71	38	65·5	47·6	56·2	3 above.	99	+25	0	− 1	2703	+ 7	468	− 40
	4. MIDLAND COUNTIES	70	37	63·7	48·3	55·8	3 above.	97	+22	0	− 2	2651	− 19	478	− 30
	5. ENGLAND, SOUTH -	73	36	63·9	50·4	57·0	3 above.	105	+23	0	− 1	2907	− 4	305	− 69
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	68	35	58·5	47·9	53·1	2 above.	78	+13	0	− 2	2319*	+ 29	325	− 73
	7. ENGLAND, N.W.	64	35	59·3	50·1	54·6	2 above.	88	+21	0	− 1	2517	+ 70	302	− 81
	8. ENGLAND, S.W. -	74	34	61·3	49·9	55·4	1 above.	94	+11	0	0	2724	− 44	245	+ 11
	9. IRELAND, NORTH -	65	32	58·7	48·3	53·3	2 above.	79	+14	0	− 2	2410	+ 36	294	− 56
	10. IRELAND, SOUTH -	70	31	61·3	48·6	54·8	1 above.	90	+15	0	− 1	2717	+ 37	224	− 15
	— CHANNEL ISLANDS -	67	43	62·0	52·7	57·2	(0 average)	106	+ 9	0	0	3017	+ 21	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 236.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	7	51	23 more.	197	+27	41·0	+ 1·8	6	7	926	−158	25	− 4
	1. SCOTLAND, EAST -	5	18	10 more.	165	+19	24·0	− 0·3	14	18	1114	−121	30	− 3
	2. ENGLAND, N.E. - -	3	3	4 less.	140	0	18·7	− 2·1	21	26	1093	− 44	30	− 1
	3. ENGLAND, EAST -	1	less than ½.	6 less.	139	− 6	17·7	− 1·7	39	49	1379*	+ 1	38	0
	4. MIDLAND COUNTIES-	2	1	7 less.	135	− 5	16·9	− 5·4	35	44	1202	− 28	33	0
	5. ENGLAND, SOUTH -	2	1	6 less.	134	− 1	20·8	+ 0·2	34	43	1299	− 21	36	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	6	25	8 more.	170	+12	38·7	− 1·2	16	20	1170	− 25	32	0
	7. ENGLAND, N.W. - -	5	13	4 more.	159	+12	25·2	− 0·6	23	29	1119	− 82	30	− 3
	8. ENGLAND, S.W. - -	5	3	8 less.	161	+ 8	27·3	− 4·8	30	37	1318	−111	36	− 3
	9. IRELAND, NORTH -	5	14	6 more.	186	+11	26·7	− 0·4	18	23	1103	− 1	30	0
	10. IRELAND, SOUTH -	3	4	5 less.	174	+11	30·1	+ 0·3	30	38	1208	− 58	33	− 2
	— CHANNEL ISLANDS -	2	1	8 less.	155	−10	24·0	+ 0·2	25	31	1582	−105	44	− 2

General Remarks.

Weather over England and the southern parts of Ireland has been fine for the time of year; over the north of Ireland it has been wet, windy, and unsettled, while in Scotland it has been windy and exceptionally wet. (See paragraph on Rainfall).

Temperature has been a little below the mean in "Scotland N." and equal to it in the "Channel Islands," but in all other parts of the Kingdom an excess is shown varying in amount from 1° to 3°. The highest of the maxima, which were recorded either at the beginning or end of the period, ranged from 74° in "England S.W." and 73° in "England S." to 64° in "England N.W." and 60° in "Scotland N." The lowest of the minima were recorded generally on October 2nd, when they varied from 31° in "Ireland S.," 32° in "Ireland N.," and 33° in "Scotland N.," to 38° in "England E." and to 43° in the "Channel Islands."

Rainfall has been more than the mean in Scotland, "Ireland N.," and "England N.W."; considerably less in all other districts. In the north-western parts of Scotland the fall has been extremely heavy; at Glencarron the total fall for the week was 11·20 ins. and at Fort William 7·21 ins., while on Thursday as much as 5·90 ins. was collected in the gauge at the former station and 3·54 ins. at the latter.

Bright Sunshine has been very little prevalent over the northern and north-western parts of the Kingdom, but in the more southern districts a fair amount has been recorded. The percentage of the possible duration ranged from 7 to 20 in Scotland, from 23 to 38 in Ireland, and from 26 to 49 over England.

Barometer and Wind.—The barometer has been highest in the south and lowest in the north, and the winds have consequently been mainly from the Westward or South-Westward. Large depressions have moved eastward a little to the northward of Scotland, and on the 30th a large system passed immediately over Scotland in an easterly direction—apparently secondary to a still deeper disturbance which lay over Scandinavia. This depression caused gales from between South-West and West at nearly all the Irish and English stations, but at other times the wind was more moderate in force, although it occasionally increased to a strong breeze or slight gale at the extreme northern and north-western stations.

* This value has been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 235 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	55	40	52·3	44·1	48·1	—0·8	43	0	6	2·09	+1·16	*	*
	Stornoway	57	35	53·7	42·9	48·1	—0·4	43	0	7	4·57	+3·51	6·1	8
	Wick	60	36	54·6	43·6	48·9	0·0	48	0	7	2·40	+1·75	*	*
	Lairg Ⓢ	58	33	52·3	42·1	47·0	—1·3	35	0	7	3·70	+2·78	*	*
	Glencarron Ⓢ	57	35	52·4	43·4	47·8	—0·8	41	0	7	11·20†	+9·42	?	?
	Fort Augustus Ⓢ	58	34	53·8	43·4	48·5	—1·9	46	0	7	4·74†	+3·81	5·8	7
	Fort William Ⓢ	58	38	54·3	46·5	50·2	—1·0	57	0	7	7·21	+5·42	5·1	6
1. SCOTLAND, E.	Nairn	59	40	55·4	43·6	49·3	—0·6	51	0	6	2·41	+1·80	*	*
	Aberdeen	65	39	58·6	45·6	51·9	+2·1	69	0	5	1·48	+0·77	14·4	18
	Braemar Ⓢ	57	37	51·7	42·2	46·8	0·0	34	0	6	2·01	+1·09	11·8‡	15‡
	Ochtertyre Ⓢ	66	35	58·9	45·6	52·1	+2·3	71	0	5	2·07	+1·08	*	*
	Leith Ⓢ	65	36	59·9	47·3	53·4	+2·7	80	0	5	1·61	+1·08	11·5	15
	Marchmont Ⓢ	63	35	59·1	46·3	52·5	+3·9	74	0	4	1·01	+0·23	19·3	24
2. ENGLAND, N.E.	Alnwick Castle	63	40	59·3	49·3	54·1	+3·9	85	0	3	0·64	—0·04	*	*
	Durham	66	38	61·4	48·4	54·7	+3·4	89	0	3	0·31	—0·31	29·1	36
	Shields	65	36	61·6	46·6	53·9	+3·0	83	0	3	0·41	—0·17	*	*
	Scarborough 𝔐	64	42	59·8	49·9	54·7	+2·7	89	0	3	0·21	—0·50	17·2‡	21‡
	York	66	38	61·4	48·9	55·0	+2·8	91	0	3	0·17	—0·49	17·4	22
	Spurn Head	65	45	61·9	51·6	56·6	+4·2	102	0	2	0·07	?	*	*
3. ENGLAND, E.	Hillington 𝔐	69	42	64·9	46·6	55·5	+3·2	95	0	0	—	—0·68	28·6	36
	Yarmouth	68	41	63·7	49·9	56·6	+2·7	102	0	1	0·06	—0·64	*	*
	Geldeston	70	39	66·2	47·4	56·3	+2·5	100	0	1	0·04	—0·61	40·7	51
	Cambridge	71	40	68·0	47·9	57·7	+3·4	110	0	0	—	—0·58	45·4	57
	Rothamsted	69	38	64·5	46·1	55·0	+1·5	91	0	1	0·01	—0·69	42·4	53
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	68	37	64·7	48·4	56·3	+3·5	100	0	0	—	—0·65	33·8‡	42‡
	Loughborough	69	38	66·4	49·0	57·4	+5·0	108	0	1	0·08	—0·62	38·9‡	49‡
	Cheadle 𝔐	65	38	61·1	46·8	53·7	+2·4	82	0	3	0·23	—0·62	*	*
	Churchstoke 𝔐	64	37	61·7	47·7	54·5	+2·3	88	0	2	0·05	—0·72	33·4	42
	Hereford 𝔐	68	38	64·7	48·7	56·5	+3·7	102	0	1	0·01	—0·68	*	*
	Cirencester	70	38	63·1	47·4	55·0	+2·1	91	0	3	0·06	—0·71	30·3	38
	Oxford	68	40	64·4	50·0	57·0	+3·5	105	0	2	0·05	—0·60	39·1	49
5. ENGLAND, S.	London	71	40	66·0	50·3	57·9	+3·1	111	0	0	—	—0·61	37·7‡	47‡
	Strathfield Turgiss 𝔐	71	36	65·3	48·5	56·7	+2·7	103	0	3	0·05	—0·60	*	*
	Dungeness	68	38	64·4	51·4	57·7	+3·0	110	0	3	0·15	—0·55	38·7	48
	Hastings (St. Leonards)	67	41	62·3	51·5	56·7	+1·9	103	0	2	0·15	—0·63	32·7	41
	Southampton	73	42	65·3	48·9	56·9	+3·0	104	0	2	0·03	—0·73	32·1	40
	Hurst Castle	66	44	62·3	53·0	57·5	+2·6	109	0	2	0·03	—0·73	*	*
	Stowell 𝔐	66	39	62·0	49·4	55·5	+1·8	95	0	3	0·05	?	29·5‡	37‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	68	35	59·6	45·6	52·4	+1·3	73	0	7	5·72	+3·96	*	*
	Glasgow	58	40	56·5	47·6	51·9	+1·1	69	0	7	2·05	+1·08	8·1	10
	Ardrossan	60	40	58·6	49·4	53·9	+3·1	83	0	6	1·25	+0·29	*	*
	Glenlee Ⓢ	62	36	59·0	47·0	52·8	+1·2	76	0	6	1·57	+0·25	*	*
	Douglas (Isle of Man)	62	43	59·0	49·9	54·3	+2·8	86	0	3	1·84	+0·88	22·8	29
7. ENGLAND, N.W.	Newton Reigny	61	35	58·4	47·5	52·8	+2·4	76	0	5	2·02	+1·21	16·8	21
	Stonyhurst	59	38	57·3	48·1	52·6	+1·3	74	0	6	2·98	+1·76	22·0	28
	Blackpool 𝔐													
	Manchester	64	37	60·0	46·8	53·2	+1·0	78	0	5	0·87	—0·12	*	*
	Liverpool Obsy. (Bidston)	62	48	59·7	52·6	56·1	+2·3	99	0	4	0·43	—0·39	*	*
	Llandudno 𝔐	64	49	60·4	52·5	56·3	+1·6	100	0	4	0·59	—0·27	?30·2	?38
	Holyhead	61	50	60·0	53·0	56·4	+1·7	101	0	4	1·14	+0·22	*	*
8. ENGLAND, S.W.	Llandovery	63	37	61·3	47·9	54·4	+0·9	87	0	7	0·74	—0·49	*	*
	Pembroke	60	47	58·4	53·7	56·0	+2·5	98	0	5	0·30	—0·63	19·4	24
	Arlington (N. Devon)	64	43	60·0	48·6	54·2	+0·9	85	0	6	0·76	—0·54	*	*
	Cullompton 𝔐	71	34	65·5	48·1	56·5	+2·2	102	0	3	0·08	—0·82	36·8	46
	Falmouth	62	44	60·0	50·1	54·9	—0·6	90	0	3	0·22	—1·03	31·9	39
	Plymouth	74	42	63·4	49·8	56·2	+0·8	99	0	3	0·10	—0·80	30·5	38
	Prawle Point	67	44	60·4	51·3	55·7	+1·0	96	0	5	0·21	?	*	*
9 IRELAND, N.	Malin Head	58	45	56·1	48·7	52·3	+2·0	72	0	6	1·73	?	*	*
	Londonderry	61	39	58·3	48·2	53·1	+2·1	78	0	5	1·73	+0·79	*	*
	Mullaghmore	62	45	58·4	50·3	54·2	+2·3	85	0	5	1·69	+0·71	*	*
	Belmullet	59	47	57·1	51·0	54·0	+1·6	84	0	6	2·09	?	*	*
	Markree Castle	65	35	59·8	47·4	53·4	+1·3	80	0	4	1·39	+0·56	20·9	26
	Brookeborough	63	32	58·8	45·4	51·9	+0·4	69	0	3	1·40	?	*	*
	Armagh	64	38	59·8	47·5	53·5	+1·7	81	0	4	1·19	+0·49	15·0	19
	Donaghadee	64	40	60·9	48·9	54·7	+2·9	89	0	3	0·78	+0·02	*	*
	Edgeworthstown	61	35	58·9	47·0	52·8	+0·5	76	0	5	0·99	+0·24	*	*
10. IRELAND, S.	Dublin	69	40	62·3	50·0	53·0	+3·5	98	0	3	0·37	—0·28	33·3	42
	Parsonstown	62	36	59·6	46·9	53·1	+0·3	78	0	4	0·77	0·00	30·2	38
	Kilkenny	66	33	62·0	48·1	54·8	+1·8	90	0	1	0·25	—0·47	*	*
	Waterford	65	35	62·0	47·2	54·4	+1·0	87	0	1	0·20	—0·73	*	*
	Roche's Point	64	41	60·7	50·3	55·4	+1·5	94	0	1	0·15	—0·84	*	*
	Valencia	63	42	60·0	51·1	55·4	+0·6	94	0	4	0·35	—0·87	26·5	33
	Killarney	70	31	63·7	45·9	54·5	+0·7	88	0	3	0·46	?	*	*
	Foynes	65	40	60·2	49·6	54·7	+1·5	89	0	5	0·86	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	63	51	60·7	53·0	56·7	—0·1	103	0	3	0·15	—0·73	*	*
	Jersey	67	43	63·3	52·4	57·7	+0·5	110	0	1	0·03	—0·87	24·8	31

Stations marked 𝔐 are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

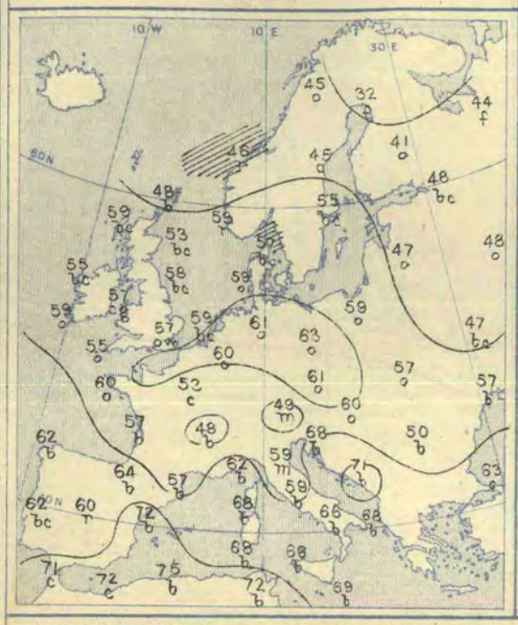
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

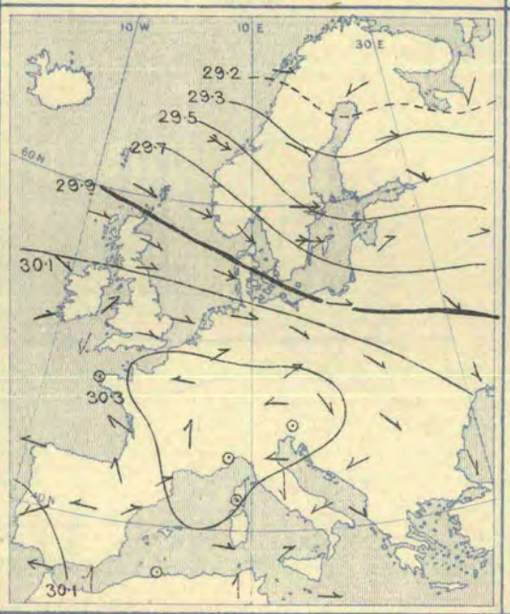
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 28th September.

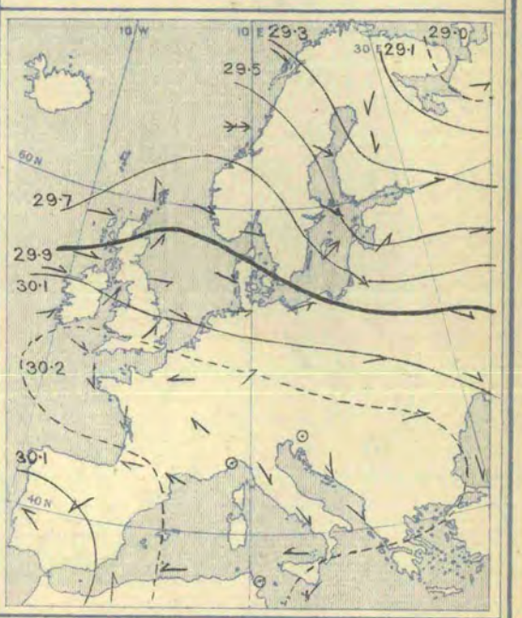
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-western, southern, and south-eastern Europe, as well as in some parts of Sweden and along the north and east coasts of Great Britain; cloudy or overcast elsewhere, with rain in the west of Norway, fog in several localities. Rain later over all the northern parts of our area and in the north of Russia (heavy at Sumburgh Head), and some showers at several of the Irish and Welsh stations; very fine over the eastern half of England.

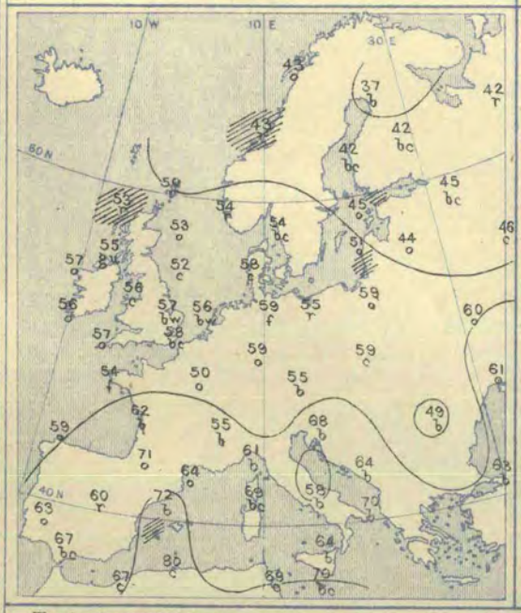
Temperature falling fast in Scotland, and, temporarily, over central France and south Germany, rising over Spain. Morning readings exceeding 70° at many of the Mediterranean stations, and exceeding 60° over the English Channel, in the Netherlands, and north Germany; much lower elsewhere. As low as 32° at Haparanda, 36° at Uleaborg, 41° at Kuopio, 44° at Archangel, and below 50° at most of the Russian stations, Sumburgh Head, and several parts of France. Rising to 71° in London later and to between 70° and 80° in many parts of France and Italy, and to a still higher point over Algeria.

Wind light and anticyclonic over France, Germany, and Spain, light to moderate from the Westward over the United Kingdom; strong to a gale from North-West or West over Scandinavia; fresh, Westerly, over the Baltic, South-Westerly over the Gulf of Finland, but North-Easterly at Haparanda and Archangel. Backing a little on our extreme western and north-western coasts later, and to South at Sumburgh Head.

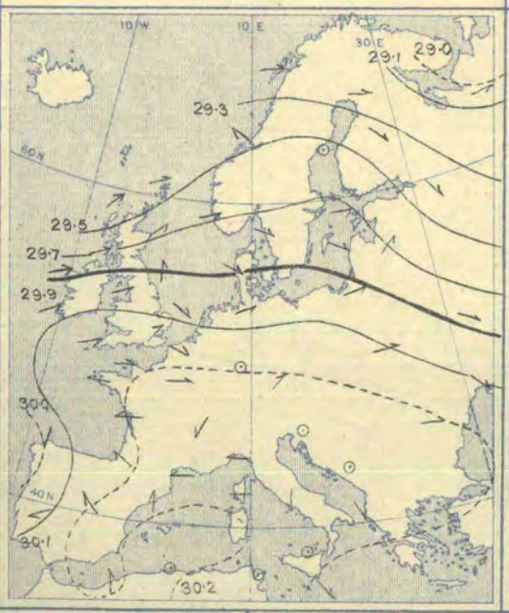
Barometer highest, 30·2 ins. to 30·3 ins. and more, in an anticyclonic system covering France, Germany, the Mediterranean, and Bay of Biscay and southern parts of our Islands. Lowest, 29·2 ins. and less, over Lapland, the Kola Peninsula, and northern Russia. Falling generally over western Europe during day as the anticyclone continued to give way; cyclonic fall on our north-west coasts towards night.

Monday, 29th September.

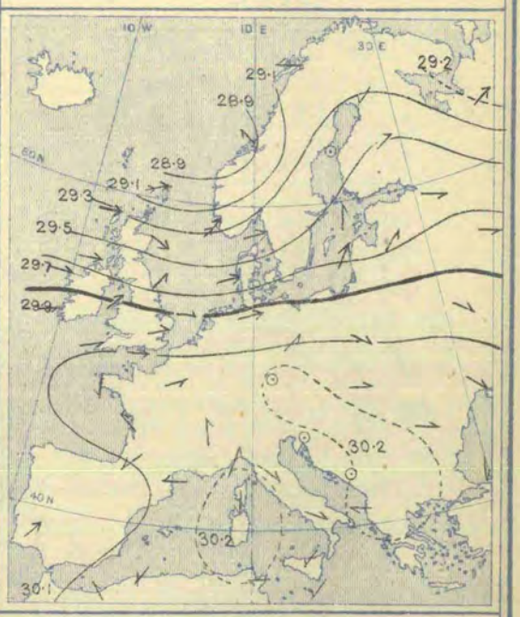
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright at most stations over the southern parts of Europe, as well as in the east of England, the north of Sweden, and over Finland; cloudy or overcast elsewhere, unsettled in most parts of the British Islands, raining in Norway and the extreme north of our Islands, foggy at some of the northern French stations. A great deal of rain later over Ireland, Scotland, and some parts of Scandinavia, but weather fair generally elsewhere.

Temperature exceeding 70° over the southern parts of the Mediterranean and at some of the Spanish stations, exceeding 60° in parts of France and Italy; much lower elsewhere; above 50° all over the United Kingdom. As low as 37° at Haparanda and Uleaborg, 42° at Archangel and Kuopio, 43° in the north-west of Norway, and below 50° over all the northern parts of Russia and the Gulf of Bothnia. Rising later to between 60° and 69° over the greater part of our Islands, to 70° in many parts of Germany, and to between 70° and 84° over Italy and in the west and south of France, and to between 80° and 86° over Algeria.

Wind moderate Westerly over northern Europe, Westerly and South-Westerly over the British Islands, and blowing strongly on our north-west coasts; very variable over France and Spain, as well as over the Mediterranean. Blowing a gale from the Westward in the north of our Islands later, and a moderate to fresh breeze in the south. A fresh gale from South felt in the west of Norway.

Barometer highest, 30·1 ins. to 30·2 ins. and more, over Spain, France, Germany, and south-eastern Europe. Lowest, about 29·0 ins. over the White Sea, and below 29·5 ins. off the north of Scotland. Gradients slight in the extreme south, moderate elsewhere. New deep depression arriving off the north of Scotland later and moving eastwards to Scandinavia.

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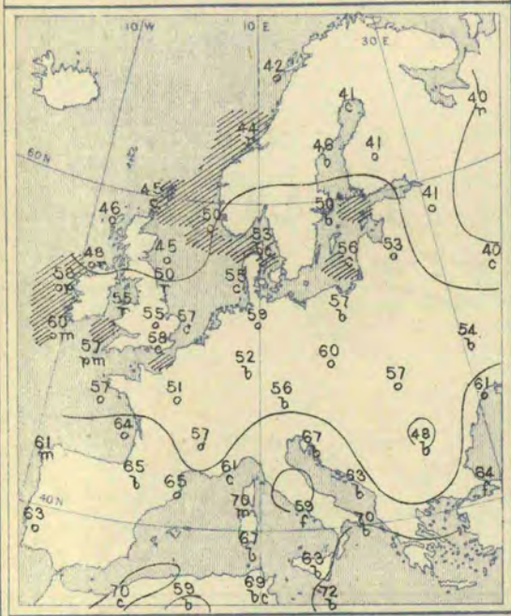
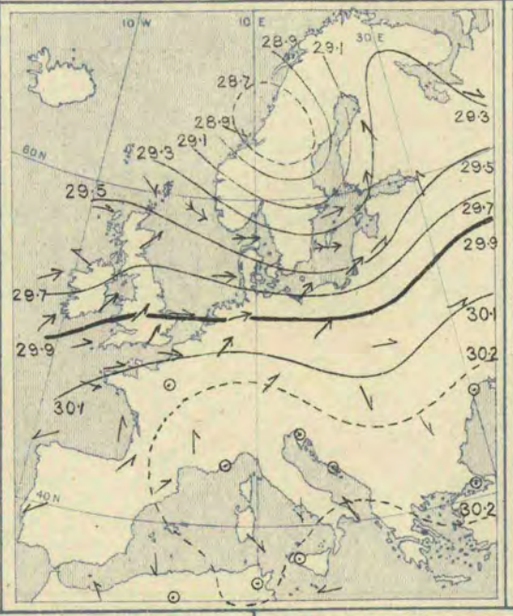
Tuesday, 30th September.

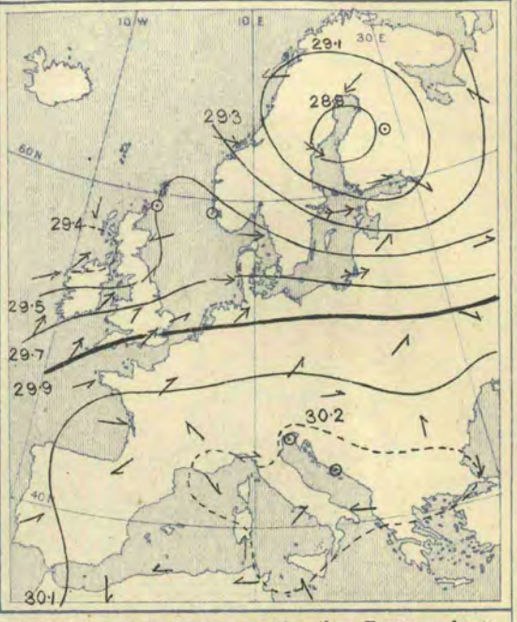
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather continuing fine and bright over southern Europe and the Mediterranean, but falling into a very unsettled condition over the northern and north-western countries, where sky was overcast, and a good deal of rain was falling in many places. Heavy rain over the northern and north-western parts of the United Kingdom, Scandinavia, and Russia later, and slight falls at some southern stations, and thunderstorms in some southern parts of France; fair in London and our eastern counties.

Temperature changing rather fitfully, but not considerably. Morning readings exceeding 70° over southern parts of the Mediterranean only; below 60° over the whole of north-western and northern Europe, and as low as (?) 33° at Uleaborg, 40° at Archangel and Moscow, 41° at Haparanda, Kuopio, and St. Petersburg, and below 50° over all the northern half of Scandinavia, as well as in Scotland and at Malin Head. Rising to between 70° and 85° over south-eastern and southern Europe, and to between 60° and 69° over England later, but daily maxima not exceeding 51° at Nairn and Aberdeen, and not touching 50° at Wick, Sumburgh Head, and Stornoway.

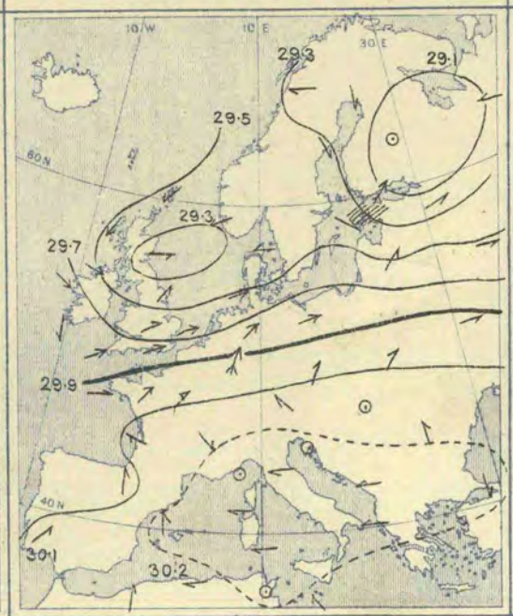
Wind very light, variable, and anticyclonic over the Mediterranean and southern Europe, moderate to a gale and cyclonic in the north and north-west: (1) Westerly gales over the eastern parts of the North Sea, South-Westerly over the Baltic, strong Southerly in Finland, light to moderate Easterly in Lapland; (2) strong Westerly and South-Westerly on our western coasts, moderate in the east, light Westerly over Scotland, moderate South-Easterly at Malin Head and Ardrossan. Gales over Baltic increasing later, and wind increasing to gale from South-Westward in many parts of Ireland, England, and the Channel, but becoming North-Easterly in Scotland.

Barometer highest, 30·1 ins. to 30·2 ins. and more, over Spain, France, Germany, and the whole of south-eastern Europe, as well as the Mediterranean. Lowest, 28·8 ins. and less, in a deep depression over Scandinavia, and 29·6 ins. and less in another depression approaching our north-west coasts from the Atlantic. Latter disturbance advancing eastwards later and increasing in depth.

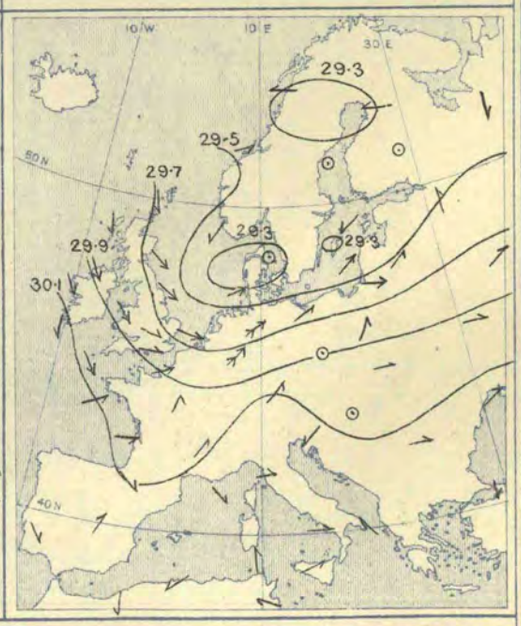
Wednesday, 1st October.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over south-eastern Europe and the Mediterranean, foggy or hazy in the south of France, cloudy over the more northern departments; squally, cloudy, and unsettled over the southern parts of our Islands, the Channel, and North Sea, very rainy, squally, and rough over our northern districts and northern Europe generally. Heavy rain continuing in latter regions during day, some showers in south of England and different parts of France and the Netherlands, and considerable falls at Nancy and Berne.

Temperature beginning to fall in the British Islands, risen fast over central Russia. Morning readings as high as 70° on the southern shores of the Mediterranean only, and above 60° over Spain, the west and south of France, the Adriatic, and some parts of the English Channel. Much lower elsewhere—as low as 36° at Archangel, 38° at Haparanda, 41° at Kuopio, and below 50° over Scotland and northern Europe generally. Rising to 70° and more over Germany, Austria, and the west and south of France later, and to above 80° over Algeria. Not reaching 60° in the north of Scotland.

Wind very light, variable, and anticyclonic over the southern countries of Europe, strong and cyclonic further to the northward. Strong North-Westerly winds prevalent in Ireland, Westerly and South-Westerly (a gale in places) over England and the Channel, South-Westerly in the Netherlands and over the Baltic, Easterly at Bodö, North-Easterly in the north of Scotland; Northerly gale in east of Scotland in afternoon and South-Westerly gale in Holstein, and wind veering to North-Westward and Northward in the south and west of our Islands.

Barometer highest, 30·1 ins. to 30·2 ins. and more, over the Mediterranean, southern and south-eastern Europe. Lowest, 29·1 ins. and less, in a depression over Finland and the north of Russia; 29·3 ins. and less in another off the east of Scotland: apparently somewhat higher to the northward of Scotland. Rising rapidly over the north and west of our Islands later, as the last-named depression moved off towards the south of Norway, while that over Finland filled up.

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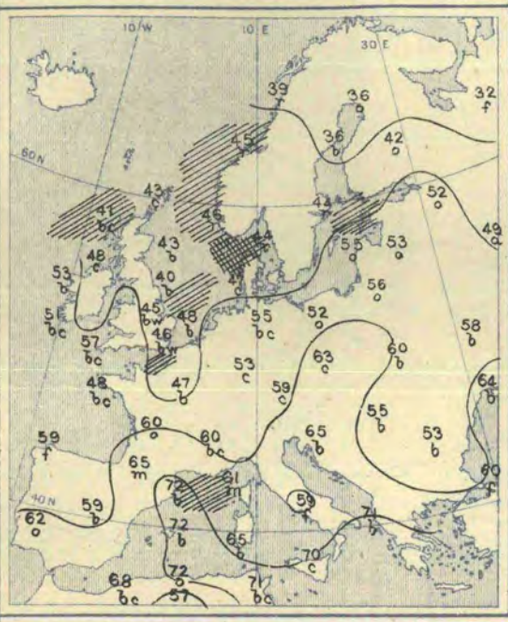
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 2nd October.

Temperature and Weather.

8 a.m.

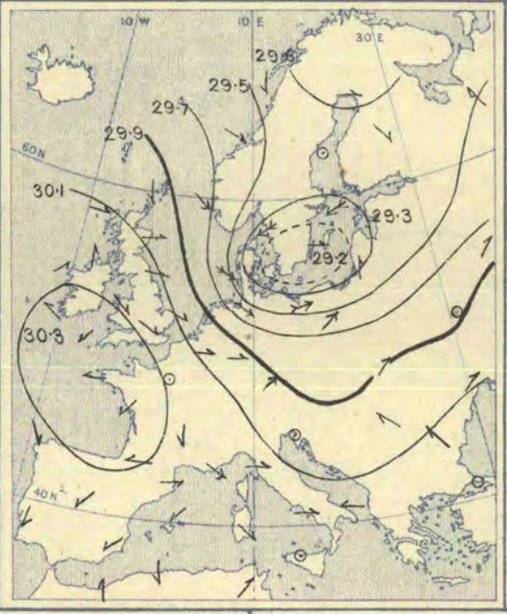


Weather fine in nearly all parts of western, southern, and eastern Europe, as well as at the Algerian stations. Rainy in Norway, Denmark, the south of Sweden, and eastern Germany; dull over the northern and central parts of Russia. Some improvement taking place later in Norway and Denmark, but dull, rainy weather setting in over the northern parts of the United Kingdom, cold showers in Austria and some parts of Germany, much rain at Stockholm. Solar and lunar halos seen at several of the British and Irish stations.

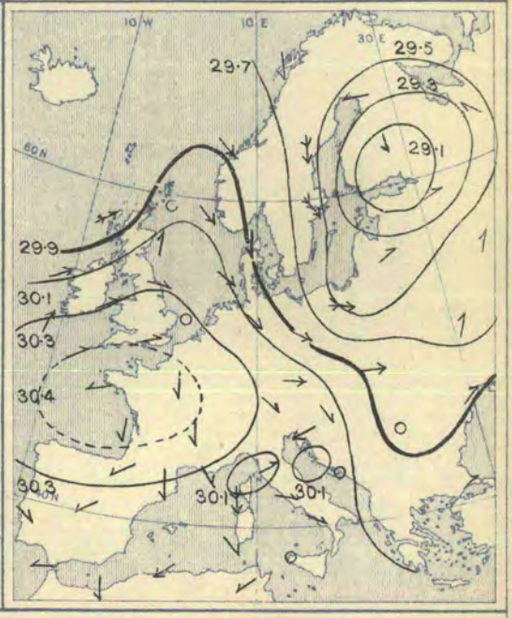
Temperature highest, 72° at Barcelona, Palma, and Algiers, 71° at Brindisi and Tunis, and 70° at Palermo and Sfax; above 60° over southern and eastern Europe generally. Lowest, 32° at Archangel, 36° at Haparanda and Hernösand, 39° at Bodö, and 40° at Shields. Below 45° over Scotland and central Ireland. Daily maxima below 60° in all the more western, northern, and eastern parts of the United Kingdom, but thermometer rising to above 70° at most of the French, Italian, and Austrian stations; not so high over Germany.

Barometer and Wind.

8 a.m.



6 p.m.



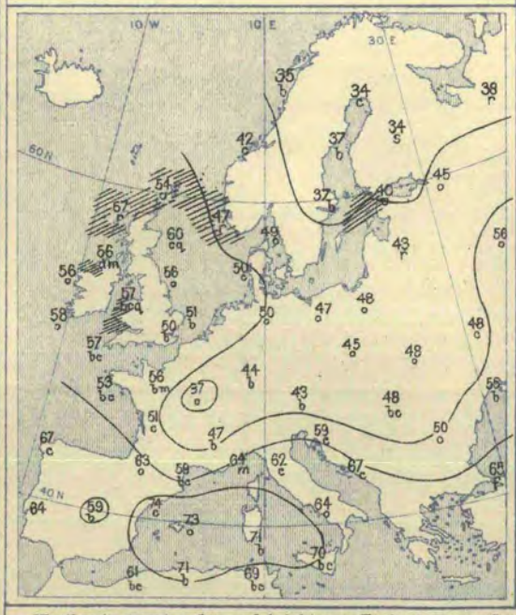
Wind light from the North-Westward over England, strong to a gale from same quarter, or from North, in Denmark and the south of Norway; strong to a gale from the Westward or South-Westward in Germany. Light from Southward over western Russia and in Ireland; light moderate from the North-Eastward in Spain and west of France, variable in Austria, Italy, and Algeria. Subsequently increasing to moderate or fresh gale from the South-Westward in the extreme north-west of our Islands; North-Westerly gale subsiding in Denmark and Germany, but strong Northerly winds and gales setting in over Baltic.

Barometer highest, 30·2 ins. to 30·3 ins. and upwards, in a large anticyclone lying over England, Ireland, France, and Spain. Lowest, 29·2 ins. and less, in a depression lying over the south of Sweden; 29·3 ins. and less in another disturbance over Lapland. Gradients steep over Denmark, Germany, and the eastern parts of the North Sea. Swedish depression subsequently moving eastwards to the Baltic, but new disturbance approaching the north-west of Scotland, and barometer falling quickly on our north and north-west coasts.

Friday, 3rd October.

Temperature and Weather.

8 a.m.

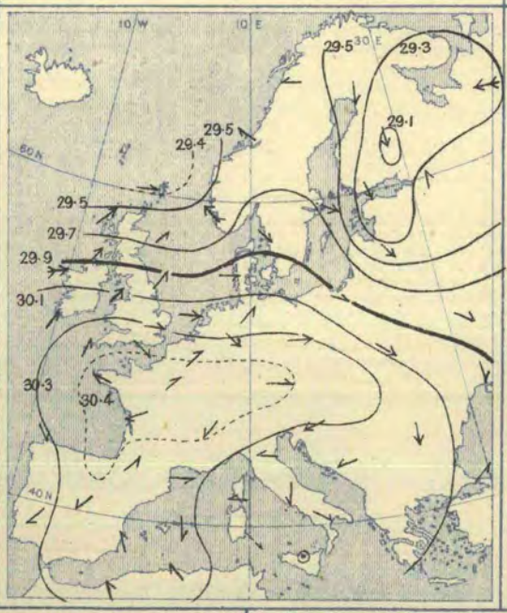


Weather in morning fine and bright over England, France, Spain, and the southern parts of the Mediterranean, as well as at several of the Swedish stations; cloudy and unsettled elsewhere, with rain in many parts of Ireland, Scotland, and the south of Norway, in Finland and northern Russia—snow at Kuopio. Rain later in Ireland, Scotland, Norway, and Germany. Snow in Finland and also in some of the mountain districts of Austria.

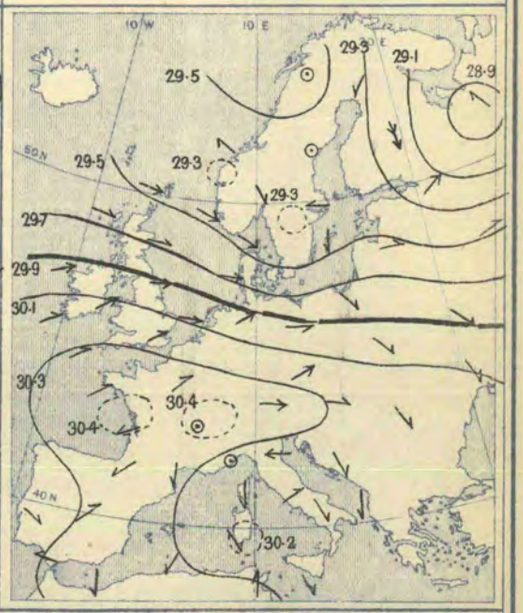
Temperature fallen fast on the Continent, risen fast in our Islands. Morning readings still slightly above 70° at some of the Mediterranean stations, exceeding 60° on the Spanish and Italian coasts, and ranging below 50° and 60° in the various parts of the British Isles. As low as (1) 34° to 35° over Lapland and Finland, 38° at Archangel and Helsingfors, 37° at Hernösand and Stockholm; (2) 37° at Paris, 39° at Le Mans, 43° at Belfort and Munich; below 50° all over Germany and Austria. Rising to between 60° and 68° in most parts of our Islands, and to between 75° and 80° in Spain, Italy, Algeria, and the west and south of France; thermometer reaching 84° at Biskra and 86° at San Fernando.

Barometer and Wind.

8 a.m.



6 p.m.



Wind (1) strong to a gale from the Northward over Finland, the Gulf of Bothnia, and eastern parts of the Baltic, and a gale from East at Archangel, but light from the Southward at St. Petersburg and Moscow; (2) strong to a gale from South-West and West in the north-west and north of our Islands, and from South-East at Skudesnaes. Moderate to fresh Westerly breezes in the south of England and over Germany, Northerly over southern Russia, North-Easterly winds over northern Italy, the south of France, and the Iberian Peninsula. Becoming gusty in many parts of England later, but gale in the north of our Islands subsiding gradually.

Barometer highest, 30·3 ins. to 30·4 ins. and more, over Germany, France, and Spain. Lowest, 29·1 ins. and less, in a depression over Finland, and in another off the west of Norway; 30·0 ins. and less over the Black Sea. Inclined to rise in Scotland later as the depression in the north moved eastwards. Disturbance over Finland becoming deeper and moving slowly eastwards.

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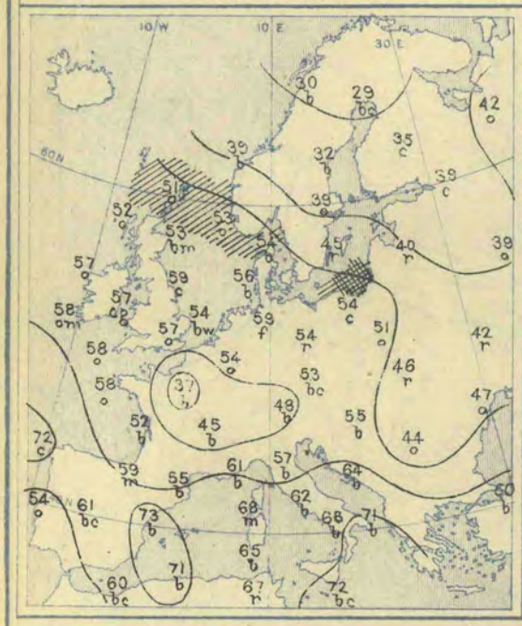
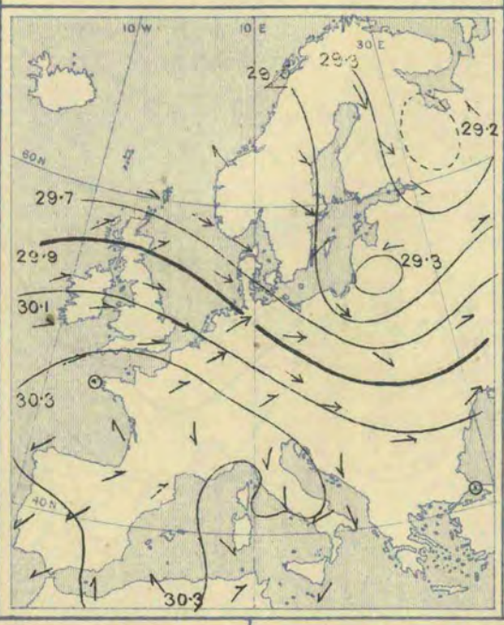
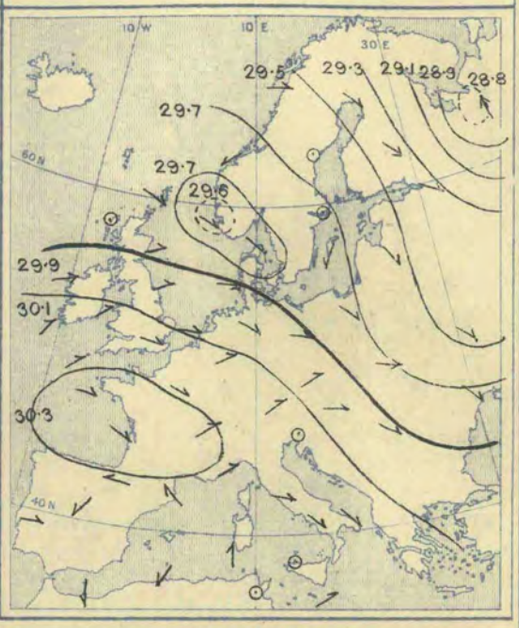
Saturday, 4th October.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather dull in Ireland, the west and north of England, and the extreme north of Scotland, rainy over the Baltic, Poland, eastern Germany, and the west of Russia. Fine in nearly all other localities, with heavy dew in some parts of Great Britain. Slight rain falling later in the west and extreme north of our Islands: lightning seen in London at night.

Temperature highest, 73° at Barcelona, 72° at Corunna and Malta, and 71° at Brindisi, Algiers, and Tunis; above 60° over southern Europe generally, and nearly reaching that point in some parts of Ireland and England. Lowest, 29° at Haparanda, 30° at Bodö, 31° at Uleaborg, and 32° at Hernösand; below 40° over nearly the whole of Russia, and also over central France. Rising during day to 68° in London, to 69° at Loughborough, and to 71° at Cambridge; to 75° or more in many parts of southern Europe, and to 80° or more in Sicily and some parts of Algeria.

Wind moderate from the Westward or South-Westward over our Islands, the Netherlands, western and southern Germany, Austria, and the south of Russia. Strong from the North-Westward over Finland, Denmark, the south of Norway, and the southern shores of the Baltic, with a gale at Memel. Light from the Eastward on the west coasts of Norway and France, and from the North-Eastward in Spain and Italy; South-Easterly or Southerly in Algeria. Wind subsiding later over the Baltic and neighbouring countries.

Barometer highest, 30·3 ins. to 30·4 ins. and upwards, in a large anticyclone lying over France, the Bay of Biscay, the northern parts of Spain and Italy, and the western parts of the Mediterranean. Lowest, 29·2 ins. and less, in a depression lying over Finland: 2 ·3 ins. and less in another disturbance over the Baltic provinces. Gradients rather steep over Denmark and central Europe. Both depressions subsequently moving eastwards, but new disturbances beginning to show themselves off the west of our Islands.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During this week barometric pressure has been highest over the southern, lowest over the northern countries of Europe. As a rule, the gradients have been moderate, but on several occasions depressions of considerable magnitude and depth have passed over the more northern regions, and under these conditions the gradients have frequently been steep. The Westerly wind, though moderate in force, as a whole, has at times blown a gale in many localities, and has been accompanied by mild weather, heavy rains in the far north (especially in Scotland), but fine weather over the south of England and the southern parts of the North Sea. Over the southern half of Europe the winds have been light and variable, the weather dry, and at the inland stations in France the nights have been cold.

Towards the close of the week the thermometer was falling decidedly over Lapland, and Northerly to Easterly winds were beginning to appear in that region.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June,** *price* 4d. *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 41]. *Third Series.* WEEK ENDING SATURDAY, 11TH OCTOBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1836–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 242.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	63	32	56·4	45·6	50·8	3 above.	62	+19	0	− 5	1913	+170	438	− 79
	1. SCOTLAND, EAST -	70	33	59·8	46·5	52·9	5 above.	76	+25	0	− 5	2258	+ 27	485	− 66
	2. ENGLAND, N.E. - -	65	36	59·3	47·9	53·4	3 above.	80	+24	0	− 3	2513	+120	389	− 96
	3. ENGLAND, EAST -	69	32	63·5	45·2	54·1	2 above.	85	+23	0	− 2	2788	+ 37	468	− 42
	4. MIDLAND COUNTIES	68	32	62·2	44·0	52·9	2 above.	76	+15	0	− 4	2727	+ 7	478	− 34
	5. ENGLAND, SOUTH -	68	32	62·8	47·7	55·0	2 above.	91	+21	0	− 2	2998	+ 23	305	− 71
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	63	31	58·2	47·5	52·7	3 above.	75	+18	0	− 3	2394	+ 53	325	− 77
	7. ENGLAND, N.W. -	63	33	59 2	48·5	53·7	3 above.	82	+23	0	− 2	2601*	+101	302	− 82
	8. ENGLAND, S.W. -	66	30	60·7	48·6	54·4	1 above.	87	+14	0	0	2811	− 23	245	+ 11
	9. IRELAND, NORTH -	64	32	59·3	48·2	53·6	4 above.	81	+25	0	− 3	2491	+ 69	294	− 58
	10. IRELAND, SOUTH -	65	35	61·8	49·6	55·3	3 above.	93	+27	0	− 2	2810	+ 73	224	− 16
	— CHANNEL ISLANDS -	67	39	61·7	51·4	56·4	0 (average)	101	+14	0	0	3118	+ 37	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 242.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	11	4 less.	203	+28	42·1	+ 1·1	19	25	945	−162	25	− 4
	1. SCOTLAND, EAST -	3	1	7 less.	168	+18	24·1	− 0·9	31	41	1145	−109	30	− 3
	2. ENGLAND, N.E. - -	2	2	4 less.	142	− 2	18·9	− 2·5	24	31	1110*	− 38	30	− 1
	3. ENGLAND, EAST -	1	2	4 less.	140	− 7	17·9	− 2·1	42	55	1421	+ 24	38	+ 1
	4. MIDLAND COUNTIES-	2	3	4 less.	137	− 7	17·2	− 5·8	24	45	1236	− 14	33	0
	5. ENGLAND, SOUTH -	2	2	5 less.	136	− 3	21·0	− 0·3	39	48	1338	− 5	36	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	3	7	7 less.	173	+11	39·4	− 1·9	21	28	1191	− 25	32	0
	7. ENGLAND, N.W. - -	3	4	6 less.	162	+11	25·7*	− 1·0	20	25	1136*	− 83	30	− 2
	8. ENGLAND, S.W. - -	3	6	5 less.	164	+ 7	27·9	− 5·3	34	43	1352	− 99	36	− 3
	9. IRELAND, NORTH -	3	4	4 less.	189	+ 9	27·1	− 0·8	14	19	1117	− 8	30	0
	10. IRELAND, SOUTH -	2	7	2 less.	176	+ 9	30·8	+ 0·1	21	28	1229	− 65	33	− 1
	— CHANNEL ISLANDS -	2	2	8 less.	157	−13	24·2	− 0·6	45	57	1627	− 90	44	− 2

General Remarks.

Weather was unsettled and somewhat rainy in nearly all parts of the Kingdom during the first two or three days of the week, but subsequently became very fine and dry at all except our extreme north-western stations.

Temperature has been equal to the mean in the "Channel Islands," but in all other districts it has been above, the excess having ranged from 1° in "England S.W." to 4° in "Ireland N." and 5° in "Scotland E." The day readings have been uniformly high, but towards the close of the week sharp ground frosts were experienced at the inland stations. The diurnal range was, therefore, at this time very high, maxima ranging from 66° to 70° being reported over Great Britain, while the minima were as low as 30° in "England S.W.," 31° in "Scotland W.," and 32° to 35° in nearly all other districts.

Rainfall has been less than the mean in all districts.

Bright Sunshine has continued rather deficient over Ireland and the extreme north-western and northern parts of Great Britain, but over all the eastern and southern districts the percentage of the possible duration was high, the values ranging from 41 in "Scotland E." and 43 in "England S.W." to 48 in "England S.," 55 in "England E.," and 57 in the "Channel Islands."

Barometer and Wind.—During the earlier part of the week the distribution of pressure was cyclonic and the winds light or moderate from the South-Westward or Westward. The only depression which passed directly over our Islands, however, was a small system which travelled eastwards over Ireland and England on the th. As this disturbance moved away the barometer rose very quickly and an anticyclone appeared over us. During the remainder of the period this system moved gradually southwards, and the wind, which for a brief period was North-Easterly over our southern districts, became Westerly or South-Westerly again and light in force.

* This value has been altered owing to the receipt of further information.

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36 350 10 | 90 607

III. - DATA from which the SUMMARY on page 241 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	56	40	53·9	44·7	49·2	+1·3	50	0	7	1·05	+0·07	*	*
	Stornoway	59	35	56·3	45·0	50·5	+3·2	60	0	7	0·45	—0·64	22·2	30
	Wick	63	32	58·4	43·1	50·5	+2·8	60	0	4	0·15	—0·50	*	*
	Lairg ℌ	63	33	57·8	44·6	51·0	+4·1	63	0	6	0·46	—0·48	*	*
	Glencarron	56	35	55·0	47·2	51·0	+3·7	63	0	6	2·64†	+0·80	?	?
	Fort Augustus ℌ	62	35	57·5	46·6	51·9	+3·0	69	0	5	0·66†	—0·26	15·1	20
	Fort William ℌ	59	37	55·9	47·7	51·7	+2·3	68	0	5	2·17†	+0·35	19·1	25
1. SCOTLAND, E.	Nairn	65	39	59·6	45·9	52·5	+4·0	74	0	4	0·14	—0·44	*	*
	Aberdeen	70	37	61·0	45·1	52·8	+4·7	76	0	3	0·04	—0·64	35·5	47
	Braemar ℌ	61	35	56·6	47·1	51·7	+6·4	68	0	3	0·07	—0·84	31·0‡	41‡
	Ochtertyre ℌ	66	33	61·6	45·9	53·3	+7·0	79	0	1	0·03	—0·98	*	*
	Leith ℌ	64	42	61·1	49·1	54·9	+5·9	90	0	1	0·02	—0·47	29·1‡	39‡
	Marchmont ℌ	65	37	58·9	46·1	52·3	+5·5	72	0	3	0·18	—0·58	28·5	38
2. ENGLAND, N.E.	Alnwick Castle	61	38	57·7	48·7	53·1	+4·3	78	0	1	0·15	—0·50	*	*
	Durham	65	37	60·0	46·2	52·9	+3·3	76	0	3	0·35	—0·30	25·2	35
	Shields	64	39	59·3	47·0	53·0	+3·2	77	0	2	0·24	—0·34	*	*
	Scarborough ℌ	63	40	58·5	48·1	53·2	+2·9	78	0	2	0·63	—0·08	25·5‡	33‡
	York	64	36	60·7	46·6	53·4	+2·6	80	0	0	—	—0·63	20·4	26
	Spurn Head	62	45	59·7	50·6	55·0	+4·2	91	0	1	0·02	?	*	*
3. ENGLAND, E.	Hillington ℌ	67	32	63·2	43·6	53·1	+2·4	78	0	1	0·08	—0·54	36·6	48
	Yarmouth	66	40	62·4	48·9	55·5	+3·2	95	0	1	0·06	—0·63	*	*
	Geldeston	69	36	64·2	46·1	54·9	+2·3	90	0	1	0·13	—0·49	47·6	62
	Cambridge	69	34	64·6	44·9	54·5	+1·9	88	0	1	0·36	—0·19	40·4	52
	Rothamsted	65	34	62·9	42·6	52·5	+0·9	74	0	2	0·48	—0·22	43·9	57
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	65	33	62·6	42·3	52·2	+1·2	71	0	1	0·04	—0·63	32·9‡	43‡
	Loughborough	68	32	65·0	44·1	54·2	+3·4	85	0	1	0·15	—0·53	42·4‡	55‡
	Cheadle ℌ	65	39	60·3	45·3	52·6	+2·8	74	0	2	0·31	—0·54	*	*
	Churchstoke ℌ	64	34	61·1	44·1	52·4	+1·7	73	0	2	0·44	—0·34	27·6	36
	Hereford ℌ	65	32	62·6	43·7	52·9	+1·8	76	0	2	0·56	—0·12	*	*
	Cirencester	65	33	61·4	43·4	52·1	+0·7	71	0	2	0·43	—0·31	31·6	41
	Oxford	66	36	62·7	45·0	53·6	+1·9	81	0	2	0·43	—0·19	37·5	49
5. ENGLAND, S.	London	67	37	63·9	46·0	54·7	+1·7	89	0	3	0·32	—0·30	39·9‡	40‡
	Strathfield Turgiss ℌ	66	32	63·3	43·2	53·0	+0·5	77	0	3	0·27	—0·36	*	*
	Dungeness	65	36	62·4	50·3	56·2	+3·0	99	0	2	0·15	—0·57	39·5‡	51‡
	Hastings (St. Leonards)	66	45	62·4	50·9	56·5	+3·5	102	0	2	0·27	—0·53	42·4	55
	Southampton	68	35	63·9	46·3	54·8	+2·0	90	0	2	0·11	—0·64	38·0	49
	Hurst Castle	64	40	62·9	50·0	56·3	+2·9	100	0	2	0·10	—0·64	*	*
	Stowell ℌ	63	34	60·7	47·1	53·7	+1·6	82	0	2	0·36	?	33·8‡	44‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	61	35	58·8	47·7	53·2	+3·3	78	0	6	2·12†	+0·36	*	*
	Glasgow	59	37	56·7	48·1	52·3	+3·4	72	0	4	0·13	—0·82	16·6	22
	Ardrossan	59	38	57·3	48·6	52·8	+3·1	76	0	2	0·09	—0·87	*	*
	Glenlee S	63	31	58·8	45·2	51·8	+2·0	69	0	3	0·38†	—0·95	*	*
	Douglas (Isle of Man)	62	40	59·4	48·1	53·6	+3·0	81	0	2	0·54	—0·43	26·2	34
7. ENGLAND, N.W.	Newton Reigny	63	33	58·8	45·5	52·0	+3·2	70	0	3	0·53	—0·27	24·9	33
	Stonyhurst	60	40	57·7	47·5	52·5	+2·6	74	0	3	1·07	—0·18	16·3	21
	Blackpool ℌ	62	41	59·1	49·5	54·2	+2·3	85	0	1	0·11	—0·86	17·3	22
	Manchester	63	39	59·6	46·0	52·6	+1·8	74	0	3	0·47	—0·51	*	*
	Liverpool Obsy. (Bidston)	63	41	59·9	49·9	54·8	+2·4	90	0	2	0·22	—0·60	*	*
	Llandudno ℌ													
	Holyhead	62	46	60·3	52·4	56·2	+3·0	99	0	3	0·14	—0·85	*	*
8. ENGLAND, S.W.	Llandovery	66	30	62·7	43·7	52·9	+0·6	76	0	4	1·76	—0·51	*	*
	Pembroke	60	48	59·0	52·3	55·6	+2·7	95	0	3	0·87	—0·05	37·3	48
	Arlington (N. Devon)	64	39	60·1	46·7	53·2	+1·2	78	0	3	1·21	—0·09	*	*
	Cullompton ℌ	65	31	63·3	44·7	53·7	+0·9	82	0	2	0·10	—0·80	35·8	46
	Falmouth	61	43	59·0	51·2	55·0	+0·6	91	0	5	0·17	—1·08	31·1	40
	Plymouth	63	39	60·8	? 50·2	? 55·3	?+1·4	? 93	0	2	0·08	—0·80	29·7	38
	Prawle Point	61	45	59·7	51·3	55·4	+2·5	94	0	3	0·16	?	*	*
9. IRELAND, N.	Malin Head	59	45	56·9	50·0	53·4	+4·0	80	0	2	0·34	?	*	*
	Londonderry	62	38	59·6	48·9	54·1	+4·3	85	0	3	0·26	—0·70	*	*
	Mullaghmore	60	41	58·7	50·6	54·5	+4·3	88	0	3	0·51	—0·43	*	*
	Belmullet	60	44	58·7	51·6	55·1	+3·4	92	0	5	0·92	?	*	*
	Markree Castle	64	32	59·9	46·0	52·7	+2·7	75	0	3	0·36	—0·51	12·3	16
	Brookeborough	61	34	58·7	45·2	51·8	+2·1	69	0	2	0·51	?	*	*
	Armagh	63	36	59·4	46·9	53·0	+3·1	77	0	2	0·37	—0·33	16·1	21
	Donaghadee	64	37	61·4	48·3	54·7	+3·8	89	0	2	0·23	—0·52	*	*
	Edgeworthstown	63	36	60·9	46·4	53·4	+3·5	80	0	2	0·46	—0·25	*	*
10. IRELAND, S.	Dublin	65	40	61·8	49·3	55·4	+4·3	94	0	1	0·04	—0·67	25·8	34
	Parsonstown	63	35	61·4	46·6	53·8	+3·0	83	0	3	0·75	0·00	19·0	25
	Kilkenny	65	35	62·6	46·3	54·2	+3·1	85	0	3	0·92	+0·21	*	*
	Waterford	65	39	62·1	47·3	54·5	+2·2	88	0	2	0·61	—0·31	*	*
	Roche's Point	62	44	61·1	51·1	56·0	+3·1	98	0	3	0·71	—0·26	*	*
	Valencia	63	50	61·3	54·3	57·7	+4·0	110	0	3	1·15	—0·15	18·7	24
	Killarney	?	40	?	51·7	?	?	?	0	2	0·51	?	*	*
	Foynes	63	42	62·0	49·8	55·7	+4·1	96	0	2	0·79	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	61	51	59·6	53·6	56·5	+0·6	102	0	2	0·13	—0·75	*	*
	Jersey	67	39	63·7	49·1	56·2	+0·2	99	0	1	0·16	—0·81	44·6	57

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

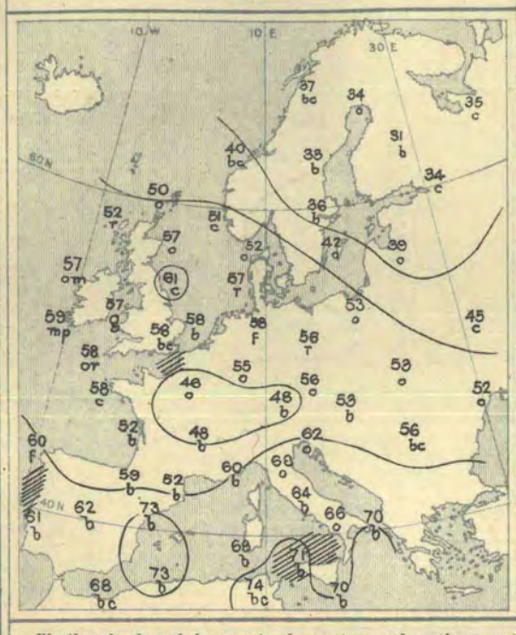
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 5th October.

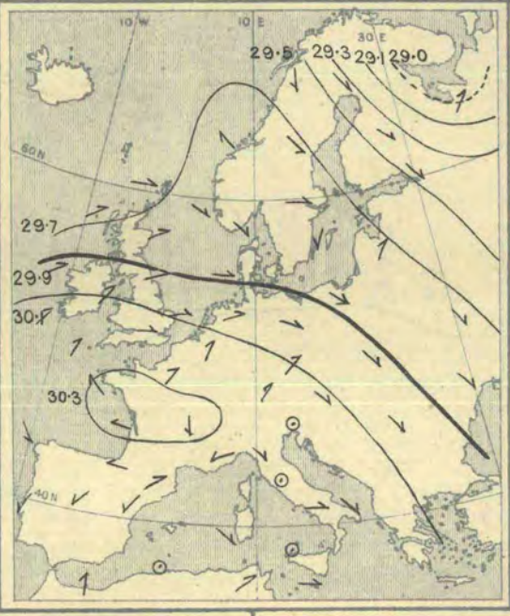
Temperature and Weather.

8 a.m.

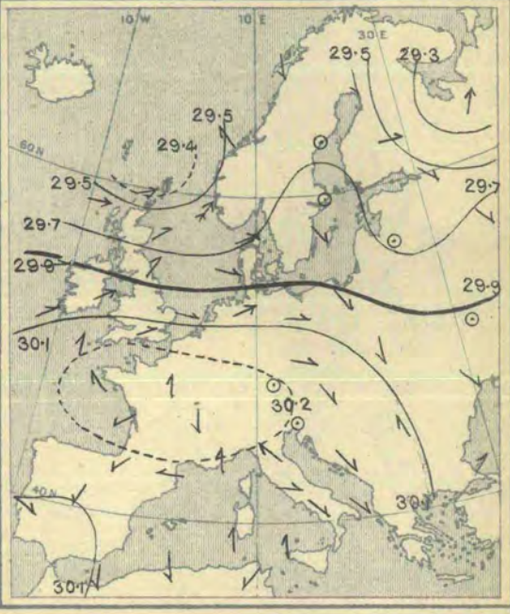


Barometer and Wind.

8 a.m.



6 p.m.



Weather cloudy and showery in the western and northern parts of the United Kingdom; dull over Denmark, the Baltic, and the greater part of Germany, with rain at Fanö and fog at Cuxhaven and Münster. Fine in nearly all other parts of Europe, but snow reported at Uleaborg. Slight rain setting in later at many of the English stations, and larger amounts falling in Norway, but weather remaining fine over the whole of France and southern Europe.

Temperature highest, 74° at La Calle, 73° at Barcelona and Algiers, and 71° at Palermo; as high as 61° at Shields and 60° at Hurst Castle; very little below 60° in any part of the United Kingdom, excepting the extreme north of Scotland. Lowest, 31° at Kuopio and Helsingfors, 32° at Uleaborg, 33° at Hernösand, 34° at St. Petersburg, and 35° at Archangel. Rising during day to between 60° and 65° in many parts of the United Kingdom, and to 69° at Cambridge; exceeding 70° in the west and south of France, and exceeding 80° in Spain and Algeria, the highest readings of all being 88° at Biskra and 84° at Algiers.

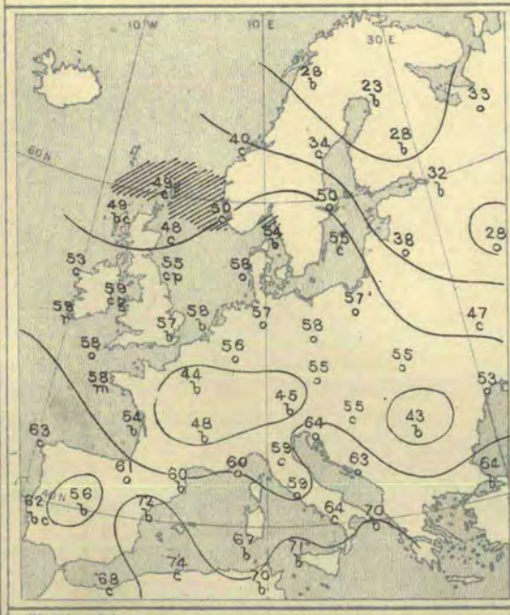
Wind light or moderate from the South-Westward in all the more western and northern parts of the United Kingdom, and also in western Germany; Westerly over the south-east of England and the eastern shores of the North Sea; North-Westerly over Sweden, Russia, Austria, and east Germany. Light from the Eastward in the west and south of France, and from the North-Eastward in Spain; variable in Italy and Algeria. Subsequently increasing to a strong breeze from South-West and West in the north of Scotland.

Barometer highest, 30·2 ins. to 30·3 ins. or rather more, in a large anticyclone covering the Bay of Biscay, the south of our Islands, France, and the greater part of southern Europe. Lowest, 29·0 ins. and less, in a depression lying over the White Sea; 29·7 ins. and less in another system lying to the northward of Scotland. Latter system subsequently growing deeper, and barometer falling quickly in the extreme north of our Islands.

Monday, 6th October.

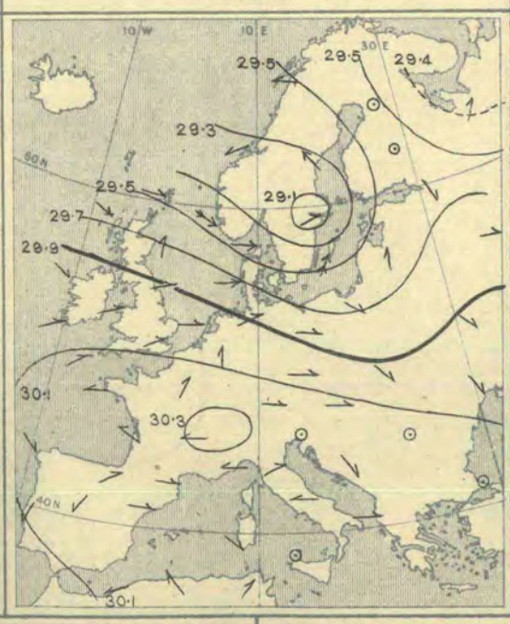
Temperature and Weather.

8 a.m.

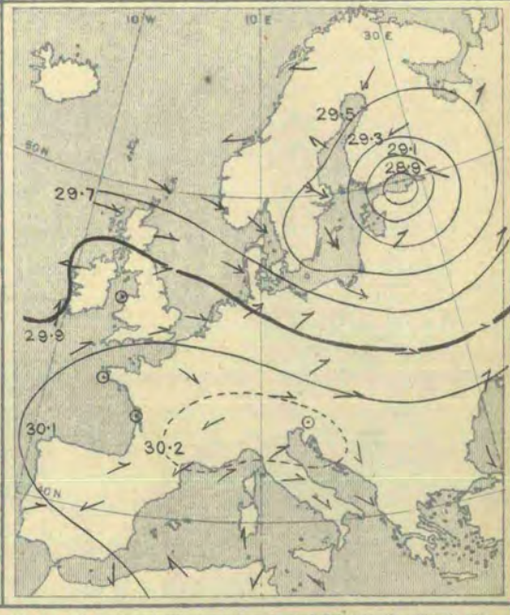


Barometer and Wind.

8 a.m.



6 p.m.



Weather fair or fine over nearly the whole of western and southern Europe, as well as in the northern parts of Scandinavia and Russia, but cloudy in the west of our Islands, with rain at Valencia Island. Dull over Sweden, Denmark, Germany, and the Baltic, with rain at Memel and snow at Hernösand. Heavy rain falling later in Ireland and the west of England, and dull weather extending eastwards to most parts of the United Kingdom. Snow falling in northern Russia.

Temperature highest, 74° at Algiers, 72° at Barcelona, 71° at Palermo, and 70° at Brindisi and Tunis; above 60° in nearly all parts of southern and eastern Europe, and very little below that point over England and Ireland. Lowest, 23° at Uleaborg, 28° at Bodö, Kuopio, and Moscow, and 32° at St. Petersburg; below 45° over southern Austria and some parts of central France. Subsequently rising to 65° or more over the central and south-eastern parts of England and to between 70° and 80° over southern Europe; highest readings of all, 84° at Algiers and Biskra and 89° at San Fernando. Minima in following night above 55° at many of the English and Irish stations.

Wind light to fresh from the Westward or South-Westward over our Islands, the North Sea, Denmark, Germany, and the Baltic; strong to a gale from the same quarters in the south of Scandinavia. Moderate to strong from the Eastward in the north of Scandinavia, light from North-East in Spain, variable over France, Italy, and Austria, chiefly Southerly in Algeria. Subsequently backing to the Southward in the south of Ireland and increasing to a moderate gale at Valencia Island. Decided cyclonic circulation setting in over northern Russia with a strong North-Westerly gale at the mouth of the Gulf of Finland.

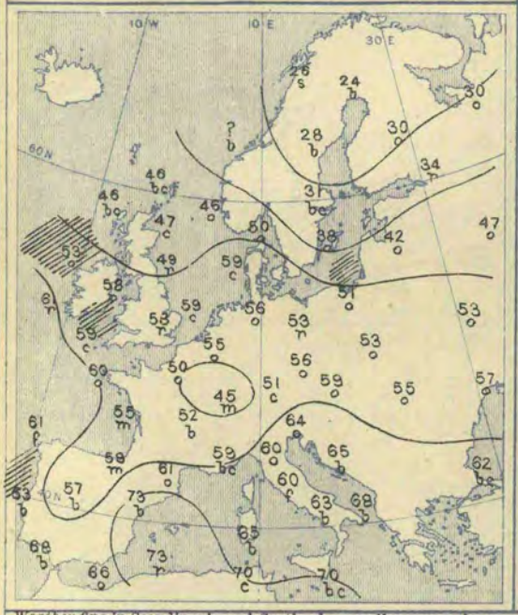
Barometer highest, 30·3 ins. and upwards over central France; 30·1 ins. and upwards in a large anticyclone covering the whole of southern Europe and extending northwards as far as the English Channel, Belgium, and central Germany. Lowest, 29·1 ins. and less, in a well-marked depression lying over Sweden; 29·4 ins. and less in a shallower disturbance over the White Sea. Swedish depression subsequently travelling eastwards and growing much deeper; shallow disturbance beginning to appear off the west of Ireland.

Judd & Co Lte Lith. 73 & 75, Farringdon Rd & Doctors' Commons

II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 7th October.

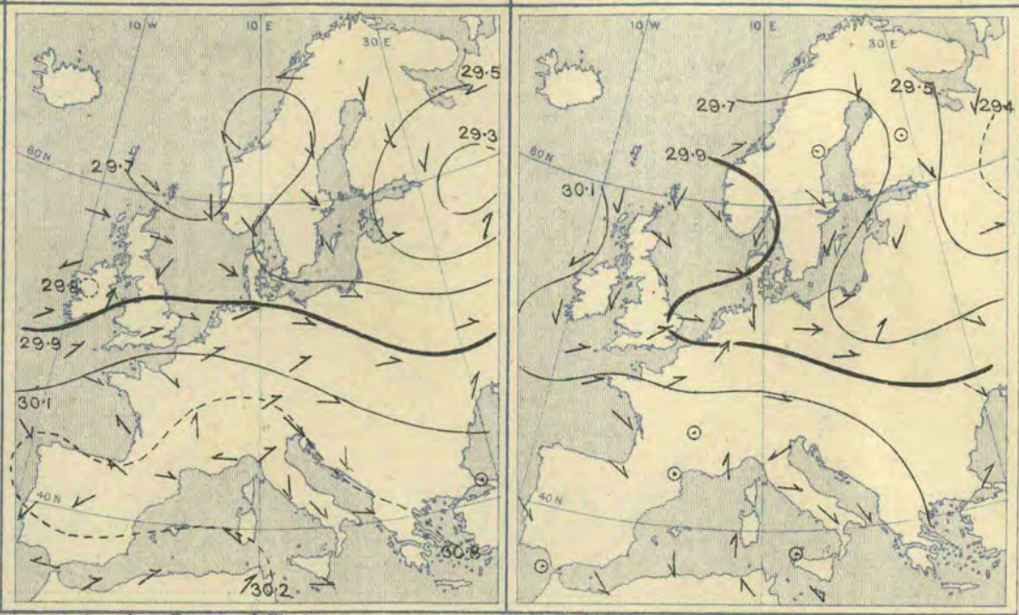
Temperature and Weather. 8 a.m.



Weather fine in Scandinavia and Scotland, as well as over the greater part of southern Europe. Dull elsewhere, with rain at most of the English and Irish stations, and also at St. Petersburg, Berlin, and Algiers. Improvement taking place later in Ireland and the west of England, but rain setting in over the Netherlands, Germany, and the north of France, and showers falling in some parts of Scotland. Thunder heard in evening at some of the Algerian stations.

Temperature highest, 75° at Tunis, 73° at Barcelona and Algiers, 70° at La Calle and Malta, and 69° at Sfax; high, 55° to 61°, over all the more southern parts of England and Ireland. Lowest, 21° at Uleaborg, 24° at Haparanda, 26° at Bodö, 28° at Hernösand, and 30° at Archangel and Kuopio; below 35° over the northern parts of Russia and Scandinavia generally. Daily maxima very little above 60° in any part of the United Kingdom, but thermometer exceeding 70° in France and exceeding 75° in many parts of Algeria and southern Europe; highest readings of all, 88° at Biskra and 84° at Cape Bearn.

Barometer and Wind. 8 a.m. and 6 p.m.

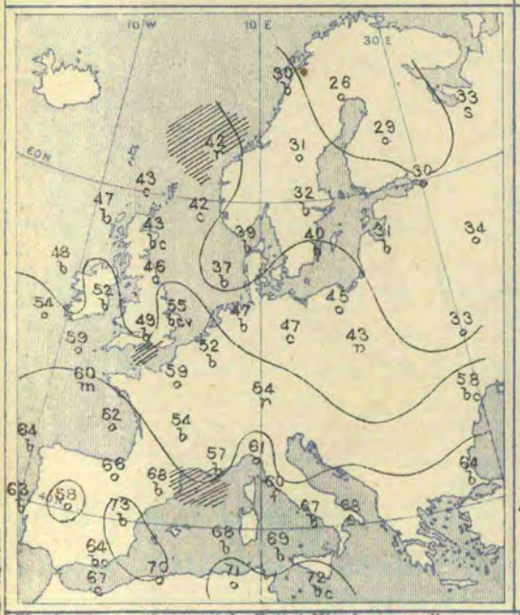


Wind moderate to strong from the South-Westward over England and the south of Ireland, but North-Easterly in the northern parts of the latter country. Light from the Westward in Scotland, as well as in Denmark and Germany; South-Easterly in the west of Norway. Cyclonic circulation reported over Russia with strong Northerly winds in the Gulf of Finland. Light Easterly over Spain and the south of France, North-Westerly in Italy, South-Westerly in Algeria. Subsequently shifting to the Northward in all the more western and northern parts of the United Kingdom, and blowing strongly from the Westward over the eastern parts of the English Channel.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over Italy, the south of France, and the north of Spain, with all the adjacent parts of the Mediterranean. Lowest, 29·4 ins. and less, in a large depression over Russia; 29·8 ins. and less in a small and very shallow disturbance lying over central Ireland. Latter system subsequently moving south-eastwards and undergoing considerable modifications both in size and intensity; barometer rising briskly in the west and north of our Islands. Russian depression moving away in a north-easterly direction.

Wednesday, 8th October.

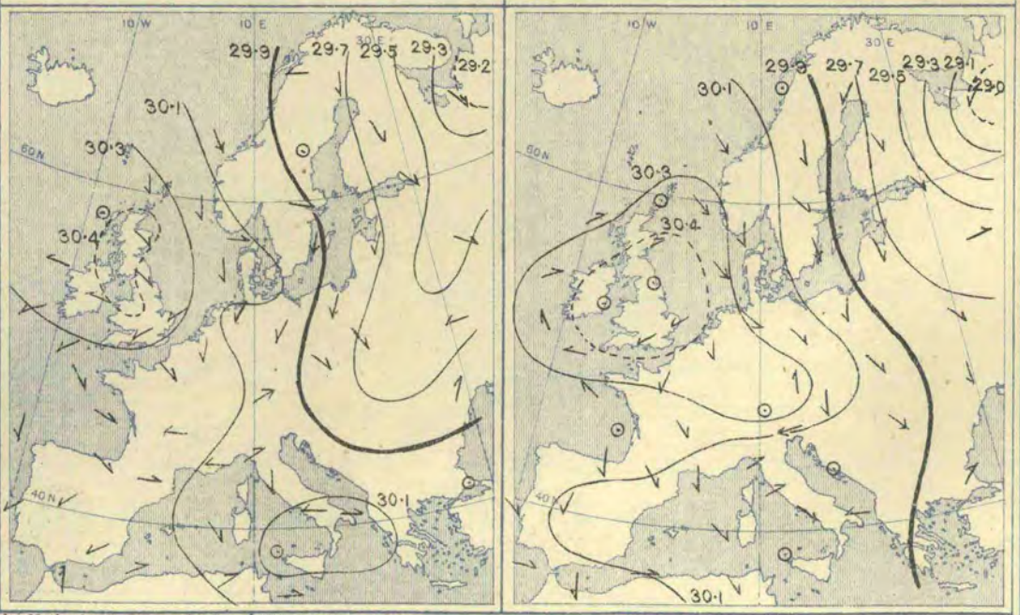
Temperature and Weather. 8 a.m.



Weather fine in all parts of the United Kingdom, as well as over the Netherlands, Denmark, the south of Scandinavia, and the greater part of Southern Europe. Dull elsewhere, with rain at many of the German stations and snow at Archangel; fog reported in some parts of France and Italy. Subsequently becoming cloudy in the north of Scotland, with slight rain in the Shetlands and Hebrides. Violent thunderstorm occurring at Algiers during day, and less severe storm at Memel in following night.

Temperature highest, 73° at Barcelona and Sfax, 72° at Malta, 71° at La Calle and 70° at Algiers; about 66° over nearly the whole of southern Europe. Lowest, 24° at Uleaborg, 26° at Haparanda and Helsingfors, 29° at Kuopio, and 30° at St. Petersburg; below 40° over nearly the whole of Scandinavia, Denmark, Russia, and the Baltic, and also over central Ireland. Daily maxima below 60° in all the more western, northern, and eastern parts of the United Kingdom as well as over Germany and the Netherlands, but thermometer exceeding 70° over southern Europe and rising above 80° at some of the Spanish and Algerian stations. Slight frost occurring over central England at night.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind light or moderate from the Northward or North-Westward over France, Scandinavia, and the north of Russia, from the North-Eastward over north Germany, the Netherlands, and the southern parts of the United Kingdom, and from the Eastward on our western coasts; variable in Scotland. Light from the North-Eastward in Spain; variable in Italy; Southerly in Algeria and also in the south of Russia. Subsequently shifting to the South-Eastward in Ireland, to the South-Westward in Scotland, and to the Northward or North-Eastward in France.

Barometer highest, 30·30 ins. to 30·45 ins. in an anticyclone lying over the whole of our Islands and the adjacent parts of the North Sea; high 30·1 ins. and upwards in another system lying off the south of Italy. Lowest 29·2 ins. and less in a depression lying over northern Russia; trough of V-shaped secondary disturbances extending southward as far as Galicia. Anticyclone over our Islands subsequently moving slowly southwards, and barometer beginning to fall on our extreme north and north-west coasts.

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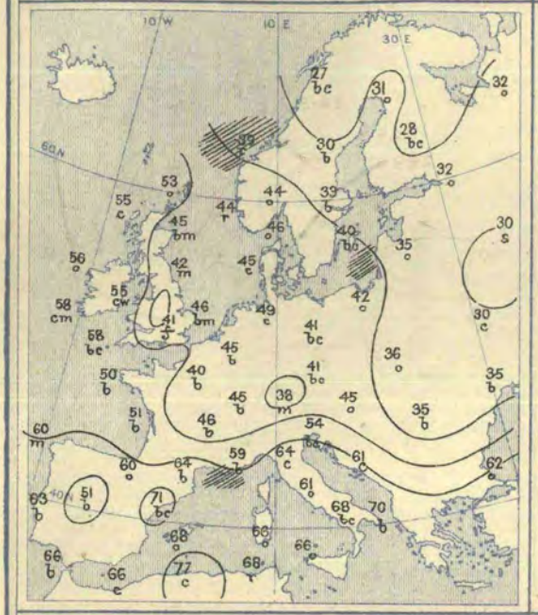
Thursday, 9th October.

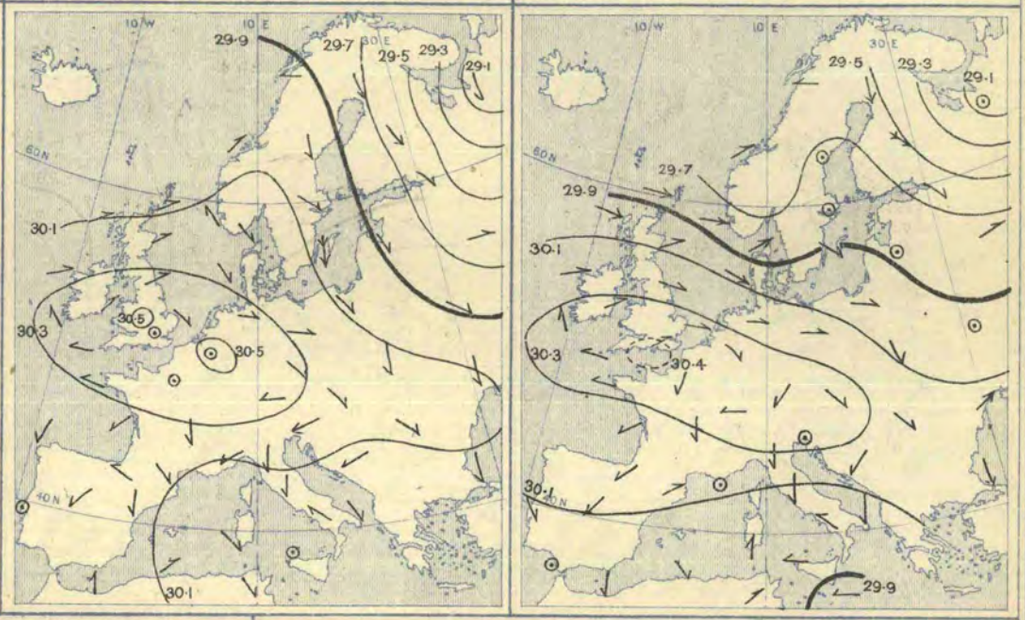
Temperature and Weather. 8 a.m.



Weather fine over the greater part of Europe, but dull in the west of Ireland as well as over Norway, central Russia, eastern Germany, Austria, and the central parts of the Mediterranean. Rain falling in the west of Norway and also at Warsaw and La Calle, snow reported at Moscow. Fog prevailing in morning over the inland parts of England. Slight rain falling later in the extreme north of Scotland and heavy amounts in the west of Norway, fog clearing over England.

Temperature highest 77° at Algiers, 71° at Barcelona, 70° at Brindisi, and 68° at Palma and La Calle; above 60° in nearly all parts of southern Europe, but considerably below that point in central Spain. Lowest (1) 28° at Kuopio, 29° at Helsingfors, 30° at Moscow and Kiev, and 31° at Uleaborg and Kharkov; (2) 33° at Loughborough and 36° at Oxford; (3) 38° at Munich, 39° at Berlin, and 40° at Paris. Subsequently rising to a little above 60° in most parts of the United Kingdom, and to between 70° and 80° in Spain, Italy, Algeria and the extreme south of France. Ground frost occurring over central England at night.

Barometer and Wind. 8 a.m. and 6 p.m.

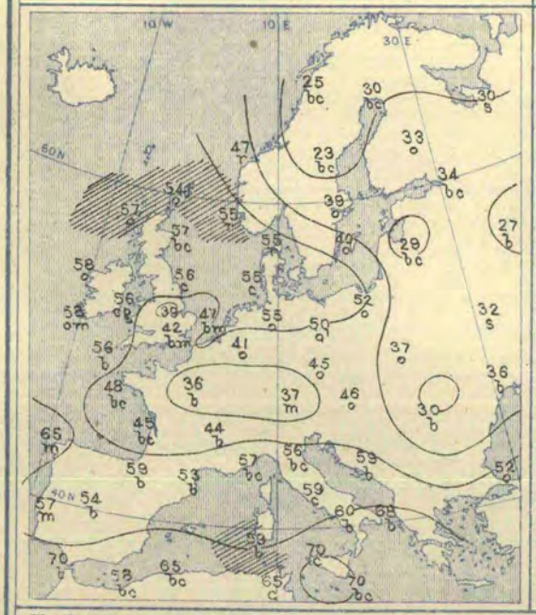


Wind chiefly anticyclonic. Moderate South-Westerly in the northern parts of the United Kingdom, Westerly on the eastern shores of the North Sea, North-Westerly or Northerly over Russia and central Europe, and North-Easterly or Easterly in France and Italy. Light from the South-Eastward or Southward in the west of Norway and also in Algeria, variable in Spain. Subsequently increasing to a gale from South-West and West in the west of Norway, and from North-West in Finland.

Barometer highest, 30·5 ins. and upwards in Belgium, 30·3 ins. and upwards over nearly the whole of Ireland, England, the Netherlands, Germany, and the north of France. Lowest, 29·1 ins. and less in a depression lying over the extreme north of Russia; 30·0 ins. and less, in another system lying to the northward of our Islands, and also in a large area lying over the eastern parts of the Mediterranean. Depression to the northward of our Islands subsequently travelling eastwards towards the west of Norway, and anticyclone moving slightly southward.

Friday, 10th October.

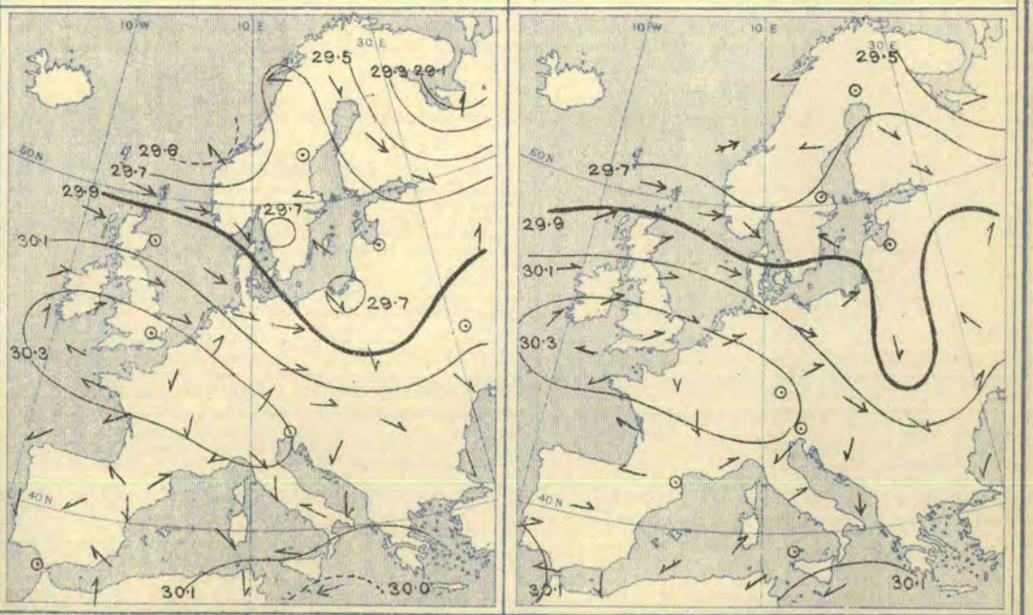
Temperature and Weather. 8 a.m.



Weather fine over the greater part of Europe, but dull in the extreme west and north of our Islands, as well as in Norway, Germany, Austria, the south of Sweden and some parts of Russia. Rain falling in the West of Norway, and snow at Archangel, Warsaw and Kiev; fog or mist reported at several of the English stations. Showers occurring later in the northern parts of Scotland and Ireland, and steady rain in Sweden and Germany. Bright aurora seen in Scotland at night.

Temperature highest, 72° at Tunis, 70° at San Fernando, Palermo, and Malta, and 68° at Barcelona, Brindisi, and Oran; above 60° at most of the Mediterranean stations, and very little below that point in Scotland. Lowest, 23° at Hernösand, 25° at Bodö, 27° at Moscow, and 28° at Helsingfors; below 40° in several of the more central parts of England, France, and Germany. Daily maxima over our Islands mostly below 65°, but thermometer reaching 67° at Cambridge, 68° at Loughborough, and 70° at Aberdeen. Exceeding 75° in many parts of southern Europe and Algeria, the highest readings of all being 84° at Cape Béarn and 82° at San Fernando.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind mostly anticyclonic over western and southern Europe; Southerly in Ireland, South-Westerly or Westerly in the north and east of our Islands, Westerly or North-Westerly on the eastern shores of the North Sea, North-Easterly or Easterly over France, Spain, Italy, and the extreme south of England. Feeble cyclonic circulation reported over the Baltic, and more decided one over northern Russia; Southerly breeze in Algeria, Northerly in Tunis. No important change occurring during day.

Barometer highest, 30·3 ins. and upwards, over the greater part of England, Ireland, France, Switzerland, and western Germany; 30·1 ins. and upwards over nearly the whole of western, southern, and eastern Europe. Lowest, 29·1 ins. and less, in a depression lying over the White Sea; 29·6 ins. and less in another system off the west of Norway; 29·7 ins. and less in two shallow disturbances lying respectively over the south of Sweden and over the Gulf of Dantzic. Depression over White Sea subsequently travelling away in a north-easterly direction, but no important change occurring elsewhere.

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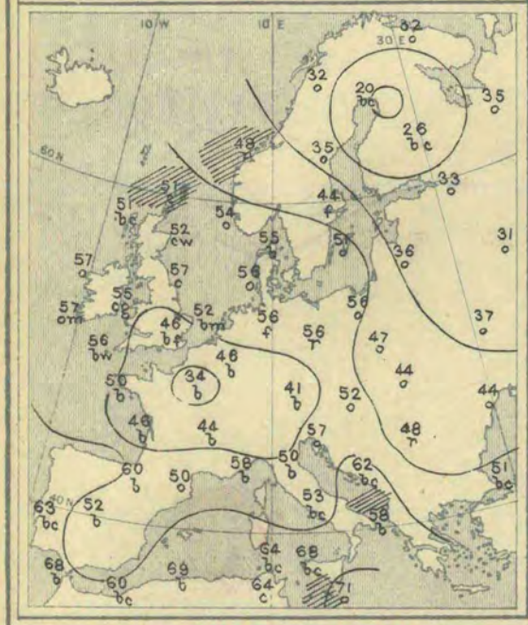
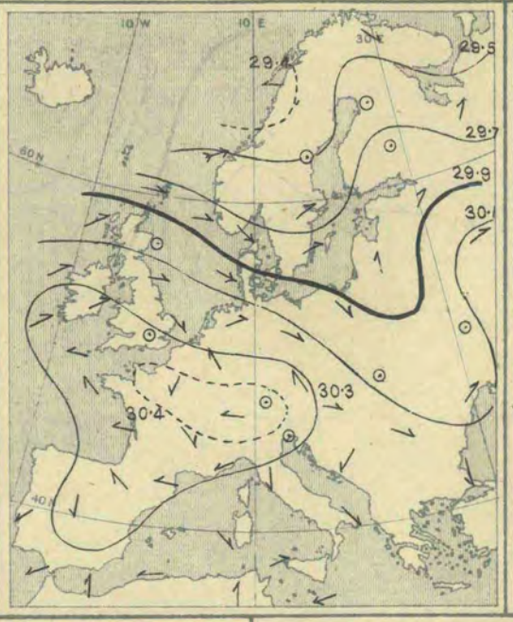
Saturday, 11th October.

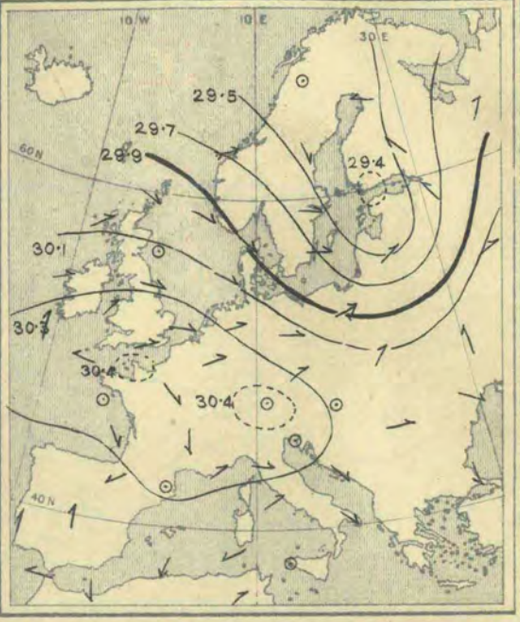
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over nearly the whole of western and southern Europe, but foggy in the central and south-eastern parts of England, and dull at most of the Irish stations, with rain in the north. Dull over Scandinavia, Russia, and central Europe, with rain in many places. No important change later, but fog clearing over England and snow setting in at St. Petersburg.

Temperature highest, 71° at Malta, 69° at Algiers, and 68° at San Fernando and Malta: above 55° over Ireland, the north of England, and the south of Scotland. Lowest, 19° at Uleaborg, 20° at Haparanda, 26° at Kuopio, and 31° at Moscow; as low as 34° at Paris and 38° at Le Mans. Rising during day to between 65° and 68° over the central and southern parts of England and to 70° or more over France, southern Europe, and Algeria, the highest readings of all being 81° at Lisbon, San Fernando, and Biskra, and 79° at La Calle.

Wind light or moderate from the South-Westward in the west and north-west of our Islands, from the Westward over the North Sea, Germany, and the east coasts of Great Britain, and from the North-Westward in Austria and Italy. Light from the Eastward or North-Eastward in France, Spain, and the south of England, as well as in the north of Scandinavia. Southerly at most of the Russian stations, strong in force over the Gulf of Finland. Subsequently increasing to a gale from the Westward in the west of Norway.

Barometer highest, 30·4 ins. and upwards, over western Germany and central France; 30·2 ins. and upwards in a large anticyclone covering the greater part of western, southern, and central Europe, as well as in another system lying over central Russia. Lowest, 29·4 ins. and less, in a depression lying off the west of Norway; 29·5 ins. and less in another disturbance lying over the Kola Peninsula. Small secondary depression forming later over the Gulf of Finland, but position of anticyclone remaining unchanged.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week a large anticyclone covered all the more southern parts of Europe, while well-marked cyclonic disturbances travelled across Scandinavia and northern Russia. On the 6th a depression in the neighbourhood of the Baltic grew suddenly deeper and occasioned gales from varying directions in all the surrounding regions, with considerable amounts of snow in Russia; while on the following day a shallow secondary disturbance travelled eastward across our Islands, and produced rain in all parts of Ireland and England. The large anticyclone in the south was at this time gradually breaking up, but on the night of the 7th a new high-pressure system advanced over our Islands from the north-westward and travelled steadily south-eastwards. By the 9th the greater part of western and central Europe were embraced by the new area, which remained fairly stationary until the close of the week. In the meantime a series of large depressions continued to advance eastwards across the extreme northern countries, and produced occasional gales on the Scandinavian coasts. On the 8th and 9th, when the central portion of the anticyclone lay directly over the United Kingdom, sharp frosts were experienced at the inland stations, but at the close of the week the weather was much milder, the thermometer rising to 65° or more in the English districts and to 70° at Aberdeen. Frost was experienced over Russia on most days.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
October 4th - - -	Blackpool - - - -	61	51	59·5	52·6	56·0	+3·1	98	0	4	1·48	+0·51	11·0	14

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 42]. *Third Series.* WEEK ENDING SATURDAY, 18TH OCTOBER, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 248.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	64	36	52·9	44·4	48·6	2 above.	46	+10	0	− 7	1959	+181	438	− 85
	1. SCOTLAND, EAST -	69	33	54·8	43·3	48·9	3 above.	48	+ 6	0	− 8	2306	+ 35	485	− 69
	2. ENGLAND, N.E. - -	67	36	56·2	43·4	49·6	1 above.	53	+ 9	0	− 5	2566	+128	389	− 99
	3. ENGLAND, EAST -	72	31	59·3	38·9	48·8	2 below.	61	+11	9	+ 5	2849	+ 50	477	− 35
	4. MIDLAND COUNTIES	70	28	57·7	39·1	48·2	1 below.	56	+ 9	8	+ 2	2783	+ 18	486	− 30
	5. ENGLAND, SOUTH -	70	32	59·4	40·9	49·9	2 below.	59	+ 2	3	0	3057	+ 27	308	− 69
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	63	34	54·4	45·6	49·9	2 above.	55	+ 9	0	− 5	2449	+ 61	325	− 79
	7. ENGLAND, N.W. -	66	37	54·7	44·1	49·3	1 below.	51	+ 4	0	− 3	2652	+106	302	− 83
	8. ENGLAND, S.W. -	70	32	58·7	44·1	51·1	1 below.	64	+ 2	0	− 1	2875	− 21	245	+ 11
	9. IRELAND, NORTH -	62	33	55·0	45·6	50·2	2 above.	57	+11	0	− 4	2548	+ 78	294	− 60
	10. IRELAND, SOUTH -	68	32	57·6	46·4	51·9	1 above.	69	+13	0	− 3	2880*	+ 86	224	− 17
	— CHANNEL ISLANDS -	71	43	60·3	48·4	54·2	1 below.	85	+ 8	0	0	3203*	+ 45	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 248.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	14	2 more.	208	+28	44·2	+ 1·3	13	18	958	−166	25	− 4
	1. SCOTLAND, EAST -	4	7	0 (average)	172	+18	24·8	− 1·0	29	40	1174	−100	30	− 3
	2. ENGLAND, N.E. - -	3	2	4 less.	145	− 4	19·1	− 3·0	37	48	1152	− 22	30	0
	3. ENGLAND, EAST -	3	5	2 less.	143	− 8	18·4	− 2·2	38	52	1459	+ 42	38	+ 1
	4. MIDLAND COUNTIES-	3	4	3 less.	140	− 8	17·6	− 6·1	28	51	1274	0	33	− 1
	5. ENGLAND, SOUTH -	2	2	5 less.	138	− 4	21·2	− 0·9	33	45	1371	+ 6	36	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	4	11	3 less.	177	+11	40·5	− 2·2	28	38	1219	− 11	32	0
	7. ENGLAND, N.W. - -	3	8	2 less.	165	+10	26·5	− 1·2	23	32	1159	− 74	30	− 2
	8. ENGLAND, S.W. - -	4	4	7 less.	168	+ 6	28·3	− 6·0	39	53	1391	− 82	37	− 2
	9. IRELAND, NORTH -	5	8	0 (average)	194	+10	27·9	− 0·8	25	34	1142	0	30	0
	10. IRELAND, SOUTH -	4	5	5 less.	180	+ 9	31·3	− 0·3	28	39	1257	− 54	33	− 1
	— CHANNEL ISLANDS -	4	3	6 less.	161	−14	24·5	− 0·9	33	44	1660	− 84	44	− 2

General Remarks.

Weather was at first quiet and dry over all the more central and southern parts of the United Kingdom, with thick fog in many places. After the 14th, however, squally showery conditions spread down from the northward, the amount of rainfall at some of the Scotch stations being considerable. Thunder and lightning were observed in many parts of England on the 15th and 16th, and aurora was seen in the west of Scotland on the night of the 17th.

Temperature has been a little below the mean over England, but a little above in Ireland and Scotland. In all the more northern and eastern districts the highest readings were observed, as a rule, on the 12th, but in the south and south-west they occurred mainly on the 13th or 14th, the thermometer reaching 69° in "Scotland E.," 70° in the "Midland Counties," "England S.," and "England S.W.," 71° in the "Channel Islands," and 72° in "England E." The lowest readings which were observed at various times in the different districts ranged from 28° in the "Midland Counties" to 36° in "Scotland N." and "England N.E.," 37° in "England N.W.," and 43° in the "Channel Islands."

Rainfall has been less than the average in all districts excepting the north and east of Scotland and the north of Ireland, where it has been either equal to or a little in excess of the normal.

Bright Sunshine.—The amount of sunshine has been large in all districts excepting "Scotland N.," where the percentage of the possible duration has not exceeded 18. In other districts the percentage has varied from 34 in "Ireland N." to 53 in "England S.W."

Barometer and Wind.—At the beginning of the week a large anticyclone extended from the Continent over Ireland and England, while a series of depressions moved along our extreme northern coasts in an easterly direction. Light variable breezes were consequently experienced in the south, but freshening Westerly and South-Westerly winds in the north. After the 13th, however, a large cyclonic disturbance spread down from the northward, its centre moving in an east-south-easterly direction from the north of Scotland to Scandinavia and the Baltic. During its passage strong winds or gales from the Westward, veering to North-West or North, were experienced over nearly the whole Kingdom, with squally showery weather.

* This value has been altered owing to the receipt of further information.

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III.– DATA from which the SUMMARY on page 247 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℳ	56	38	51·4	44·4	47·8	+0·9	41	0	6	0·85	−0·14	*	*
	Stornoway ℳ	57	39	52·4	44·3	48·2	+2·1	43	0	6	1·63	+0·52	14·9	21
	Wick ℳ	63	36	53·4	44·0	48·6	+2·3	46	0	6	0·95	+0·30	*	*
	Lairg ℳ	64	37	53·3	43·5	48·3	+2·7	44	0	6	1·05	+0·10	*	*
	Glencarron ℳ	59	36	52·0	43·3	48·0	+2·2	42	0	6	2·56†	+0·66	?	?
	Fort Augustus ℳ	59	38	53·8	45·4	49·5	+1·9	53	0	5	1·03†	+0·11	10·0	14
	Fort William ℳ	57	39	53·9	46·2	49·9	+1·9	55	0	4	1·99†	+0·17	13·2	19
1. SCOTLAND, E.	Nairn ℳ	62	38	54·4	45·3	49·7	+2·7	54	0	5	0·42	−0·12	*	*
	Aberdeen ℳ	69	38	55·6	43·1	49·2	+2·3	50	0	5	0·68	+0·03	35·1	49
	Braemar ℳ	60	35	50·5	41·2	45·7	+1·9	29	2	4	1·67	+0·77	23·7‡	33‡
	Ochtertyre ℳ	63	33	56·7	40·9	48·6	+1·9	51	3	3	0·54	−0·47	*	*
	Leith ℳ	66	39	57·3	45·6	51·3	+3·6	65	0	2	0·32	−0·13	25·4‡	35‡
	Marchmont ℳ	63	36	54·3	43·6	48·8	+3·8	48	0	2	0·41	−0·34	31·5	44
2. ENGLAND, N.E.	Alnwick Castle	61	40	54·4	45·4	49·8	+2·5	55	0	4	0·46	−0·16	*	*
	Durham	66	36	56·5	42·1	49·1	+1·3	50	0	3	0·08	−0·59	39·8	55
	Shields	67	38	57·0	43·1	49·8	+1·7	55	0	2	0·23	−0·34	*	*
	Scarborough ℳ	59	38	54·6	42·6	48·4	0·0	45	0	3	0·16	−0·56	39·5‡	54‡
	York	65	38	57·4	40·4	48·7	−0·6	54	4	3	0·14	−0·46	31·7	35
	Spurn Head	66	42	57·1	46·9	51·8	+2·7	69	0	4	0·18	?	*	*
3. ENGLAND, E.	Hillington ℳ	68	33	59·4	38·3	48·5	−0·8	61	10	4	0·51	−0·09	34·0	47
	Yarmouth	65	40	56·7	42·4	49·3	−1·3	51	0	4	0·58	−0·10	*	*
	Geldeston	70	33	60·9	38·4	49·3	−1·7	66	10	4	0·57	−0·05	44·1	60
	Cambridge	72	33	61·0	37·6	49·0	−1·6	67	12	2	0·35	−0·17	35·4	48
	Rothamsted	67	31	58·3	38·0	47·9	−1·9	58	11	3	0·31	−0·39	38·5	52
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	69	28	58·4	40·0	48·9	−0·8	57	6	3	0·11	−0·57	35·9‡	49‡
	Loughborough	68	31	58·9	38·0	48·1	−1·0	60	11	2	0·61	−0·06	32·9‡	45‡
	Cheadle ℳ	64	39	54·6	40·9	47·6	−0·3	44	3	4	0·90	+0·00	*	*
	Churchstoke ℳ	70	32	56·8	37·9	47·1	−1·8	53	11	3	0·41	−0·40	32·9	45
	Hereford ℳ	63	32	57·3	40·7	48·8	−0·9	53	4	3	0·44	−0·23	*	*
	Cirencester	66	32	58·1	38·6	48·1	−1·7	57	10	3	0·30	−0·42	42·3	57
	Oxford	69	33	59·7	37·9	48·5	−1·5	63	11	3	0·23	−0·38	44·4	60
5. ENGLAND, S.	London	67	32	58·6	38·0	48·0	−3·3	59	11	2	0·22	−0·39	22·4‡	30‡
	Strathfield Turgiss ℳ	66	32	60·2	37·0	48·3	−2·5	65	14	2	0·15	−0·47	*	*
	Dungeness	67	35	60·3	39·7	49·7	−2·0	64	6	1	0·13	−0·62	24·7	33
	Hastings (St. Leonards)	67	40	59·1	45·1	51·9	+0·3	69	0	3	0·18	−0·64	37·5	51
	Southampton	70	38	61·0	42·1	51·3	−0·2	65	0	2	0·29	−0·46	42·8	58
	Hurst Castle	64	41	58·4	44·9	51·5	−0·6	67	0	4	0·35	−0·38	*	*
	Stowell ℳ	66	33	58·2	39·4	48·5	−2·0	56	7	2	0·34	?	37·5‡	51‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	60	37	56·2	44·5	50·2	+1·8	57	0	5	2·30†	+0·53	*	*
	Glasgow	59	41	53·7	45·4	49·4	+2·2	52	0	2	0·63	−0·30	24·5	34
	Ardrossan	57	43	55·0	48·3	51·6	+3·4	67	0	3	0·62	−0·35	*	*
	Glenlee Ⓢ	63	34	51·9	42·8	47·2	−0·8	36	0	4	1·14†	−0·19	*	*
	Douglas (Isle of Man)	60	42	55·1	46·9	50·9	+1·1	62	0	5	0·61	−0·37	30·6	42
7. ENGLAND, N.W.	Newton Reigny	65	37	53·5	39·9	46·5	−0·9	40	6	3	0·84	+0·04	25·6	36
	Stonyhurst	60	41	53·9	42·5	48·0	−0·5	42	0	3	1·15	−0·10	25·2	35
	Blackpool ℳ	61	39	54·9	45·8	50·2	−0·4	57	0	3	0·97	−0·01	19·2	26
	Manchester	66	39	54·7	41·7	48·0	−1·2	43	1	3	1·00	+0·02	*	*
	Liverpool Obsy. (Bidston)	62	41	55·4	44·7	49·9	−0·9	55	0	3	0·54	−0·28	*	*
	Llandudno ℳ													
	Holyhead	60	44	56·0	50·1	53·0	+1·1	77	0	3	0·21	−0·81	*	*
8. ENGLAND, S.W.	Llandovery	70	32	57·9	40·1	48·7	−2·1	55	5	6	0·71	−0·54	*	*
	Pembroke	58	47	55·7	49·9	52·7	−0·2	75	0	3	0·44	−0·49	26·5	36
	Arlington (N. Devon)	66	37	58·9	42·6	50·5	−0·3	60	0	5	0·80	−0·51	*	*
	Cullompton ℳ	67	32	60·8	39·9	50·0	−1·1	58	6	4	0·26	−0·64	42·8	58
	Falmouth	59	42	57·0	46·8	51·8	−1·3	69	0	3	0·19	−1·06	40·2	54
	Plymouth	64	39	59·6	42·6	50·9	−1·7	62	0	3	0·22	−0·63	45·6	62
	Prawle Point	65	43	60·7	46·6	53·4	+1·2	80	0	3	0·29	?	*	*
9. IRELAND, N.	Malin Head	58	39	53·6	47·3	50·4	+2·1	59	0	3	0·83	?	*	*
	Londonderry	60	42	55·3	46·4	50·7	+2·4	61	0	4	0·95	−0·03	*	*
	Mullaghmore	60	43	54·4	47·9	51·1	+2·4	64	0	6	1·04	+0·12	*	*
	Belmullet	60	41	54·4	48·0	51·1	+0·5	64	0	6	0·84	?	*	*
	Markree Castle	61	33	55·1	43·4	49·1	+0·8	50	0	6	1·22	+0·34	22·2	30
	Brookeborough	61	39	54·3	43·7	49·1	+1·3	50	0	4	0·72	?	*	*
	Armagh	60	40	56·3	44·2	50·1	+1·9	57	0	2	0·45	−0·25	27·9	38
	Donaghadee	62	42	56·0	46·3	51·0	+0·8	63	0	4	0·29	−0·46	*	*
	Edgeworthstown	59	37	55·4	42·9	49·0	+1·2	49	0	6	0·84	+0·15	*	*
10. IRELAND, S.	Dublin	61	40	55·6	43·6	49·4	−0·5	52	0	3	0·16	−0·54	32·5	45
	Parsonstown	63	32	55·7	42·1	48·7	−0·2	47	0	5	0·44	−0·30	30·4	42
	Kilkenny	62	38	56·9	43·7	50·2	+0·9	57	0	2	0·33	−0·38	*	*
	Waterford	64	38	58·4	44·2	51·1	+0·1	64	0	4	0·22	−0·71	*	*
	Roche's Point	62	45	58·6	49·0	53·7	+2·1	82	0	1	0·01	−0·94	*	*
	Valencia	61	46	58·7	51·6	55·1	+2·7	92	0	5	0·80	−0·58	21·6	29
	Killarney	68	43	59·8	48·8	54·1	+3·0	85	0	6	1·04	?	*	*
	Foynes	63	43	57·4	48·0	52·6	+2·7	74	0	6	0·63	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	63	47	58·4	49·0	53·6	−1·3	81	0	3	0·13	−0·74	*	*
	Jersey	71	43	62·1	47·7	54·7	−0·2	59	0	4	0·55	−0·44	33·1	44

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

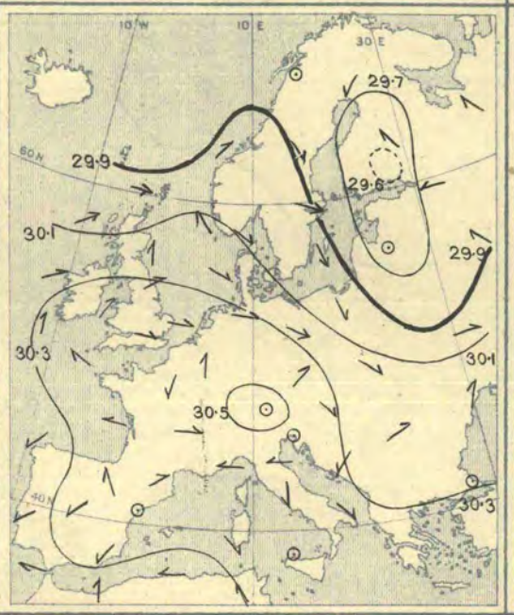
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

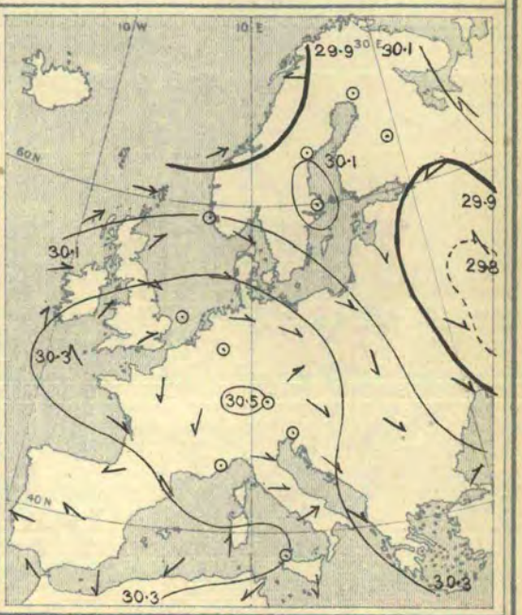
Sunday, 12th October.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of western, central, and southern Europe, but dull in the extreme west and north of our Islands and the south of Norway, with rain at Sumburgh Head and Skudesnaes; fog and heavy dew reported over England. Dull over Russia and eastern Germany, with rain at Riga and Kiev, and snow at Uleaborg and St. Petersburg. Fog clearing over England during day, but coming on again towards night. Rain or snow falling at nearly all the Russian stations.

Temperature highest, 71° at Oporto and La Calle, 70° at San Fernando, and 69° at Barcelona, Palermo, and Algiers; ranging between 55° and 60° in Scotland. Lowest, 29° at Haparanda, 30° at Bodö, and 32° at Archangel and Uleaborg; below 40° at some of the central stations in England and France. Daily maxima a little above 70° in many parts of England and France, and as high as 69° even at Aberdeen, but frost experienced over England at night. Thermometer reaching 81° at San Fernando, Nemours, and Biskra.

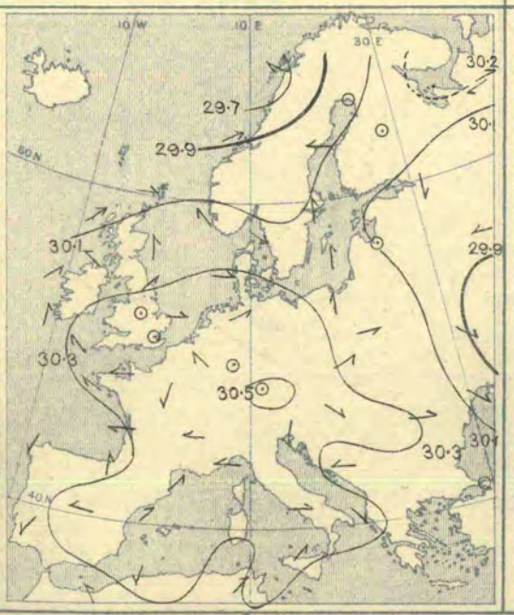
Wind Southerly or South-Westerly over the greater part of our Islands and the west of Norway, fresh or strong in force in the Shetlands and Hebrides—moderate to strong from the North-Westward over Sweden, Denmark, Germany, the Baltic, and western Russia, light Southerly over the central and southern parts of the last-mentioned country. Light from the Eastward or North-Eastward over France, Spain, and the Bristol and English Channels; variable in Algeria and the south of Italy. No important change occurring during day.

Barometer highest, 30·52 ins. at Munich; high, 30·3 ins. to 30·5 ins., in a large anticyclone covering nearly the whole of Ireland, England, the Netherlands, France, Germany, Spain, Italy, and the central and eastern parts of the Mediterranean. Lowest, 29·6 ins. and less, in an elongated depression lying over Finland; low, 29·9 ins. and less, in another disturbance lying some considerable distance to the northward of our Islands. Latter system subsequently travelling eastwards towards the west of Norway; no important change taking place in position of anticyclone.

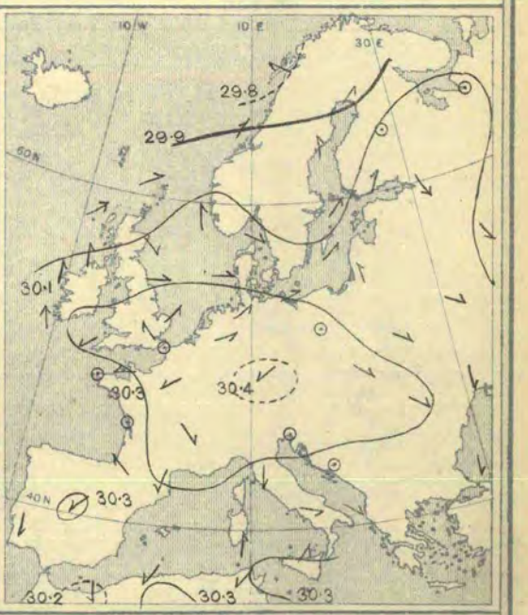
Monday, 13th October.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over nearly the whole of western and southern Europe, but foggy at many of the English stations, and dull in the extreme west and north of our Islands, with rain in the Hebrides. Dull also in Scandinavia, Russia, and Germany, with rain at Bodö. Fog clearing somewhat over England during day, but coming on again towards night. Rain falling in Ireland, the west and north of Scotland, and the northern parts of Scandinavia and Russia.

Temperature highest, 70° at Malta, 69° at Bilbao, San Fernando, and Oran, and 68° at Brindisi, Palermo, and Algiers; above 60° at most of the Mediterranean stations, and just touching that point in the south of Ireland. Lowest, (1) 27° at Archangel, 30° at Kuopio and Helsingfors, and 33° at Haparanda and Uleaborg; (2) 32° at Loughborough, 33° at Oxford, and 35° in London. Rapid rise taking place over England during day—thermometer reaching 69° at Oxford and 71° at Cambridge and Jersey—but frost occurring again at night. Daily maxima exceeding 75° in many parts of Spain, Italy, and Algeria, the highest reading of all being 82° at Oran.

Wind chiefly anticyclonic; Easterly over the greater part of France, Spain, and the English Channel, Southerly in Ireland, South-Westerly or Westerly over the north and east of Great Britain (strong in force at Stornoway), and also over the Netherlands and Germany; North-Westerly in Austria and the south of Russia. Very variable in Italy, chiefly Southerly in Algeria, as well as in the south of Sweden. Subsequently increasing to a gale from the South-Westward at Christiansund; no important change elsewhere.

Barometer highest, 30·5 ins. and upwards, over south Germany; high, 30·2 ins. and upwards, in a large anticyclone covering nearly the whole of western, central, and southern Europe. Lowest, 29·7 ins. and less, in a depression lying over the north-west of Norway, and also in another system over the south of Russia. New disturbance beginning to advance later from the Atlantic towards the extreme north of Scotland.

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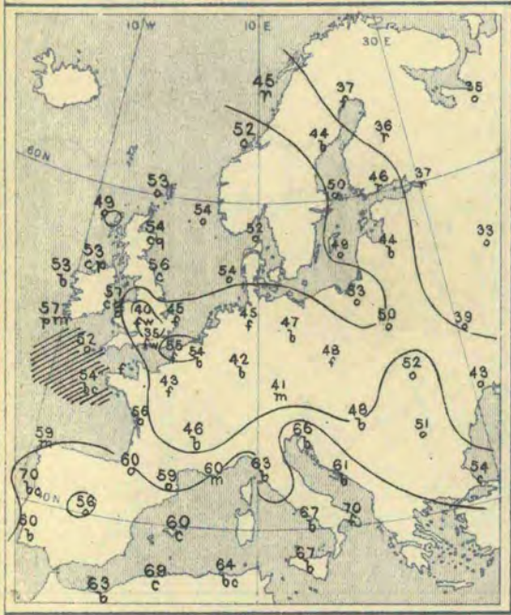
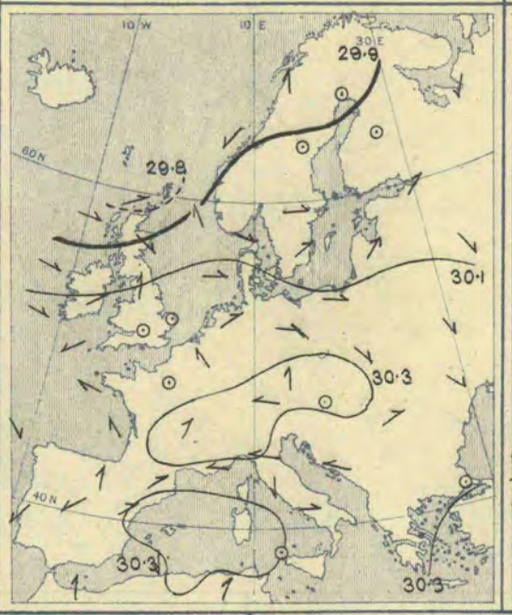
Tuesday, 14th October.

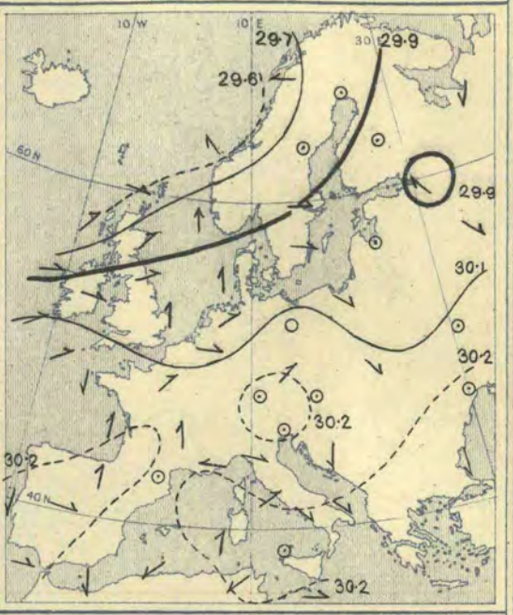
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather foggy over England, the Channel, central France, and some parts of Germany; sky more or less cloudy in nearly all other parts of Europe, with passing showers in the north of Ireland and steady rain in Finland. Fine over Germany, Austria, Italy, and the south of France. Fog continuing over south-east of England until late in evening; rain setting in at several of our western and northern stations.

Temperature highest, 70° at Oporto and Brindisi, 69° at Barcelona, Palma, and Algiers, and 68° at Tunis; above 60° at nearly all the Mediterranean stations, and above 55° in the western parts of the United Kingdom. Lowest, (1) 33° at Moscow, 35° at Archangel, 36° at Kuopio; (2) 34° at Oxford, 35° in London, 39° at Cambridge, and 40° at York and Loughborough. Subsequently rising to between 65° and 70° over the south-eastern and southern parts of England, and exceeding 70° at several of the French, Italian, and a few German stations, but not quite touching 80° even over Algeria.

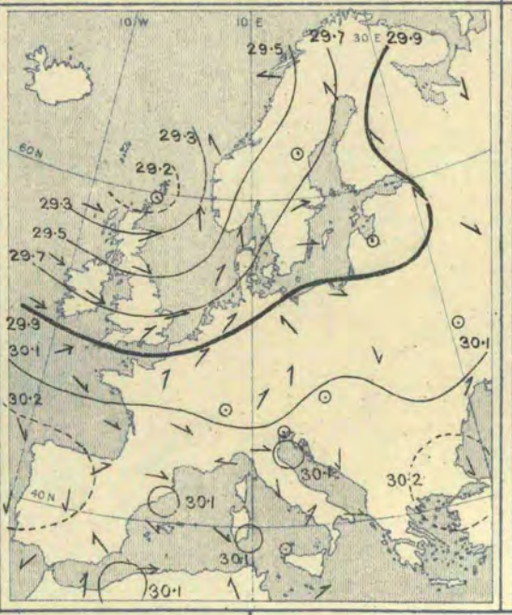
Wind light or moderate from the South-Westward and Westward over the greater part of the United Kingdom, and also over the Netherlands, Denmark, and the Baltic; variable over the northern parts of Scandinavia and Russia; light from the Eastward over the Channel, the Bay of Biscay, and Spain; chiefly Northerly in Italy, variable in Germany, Austria, and Algeria. South-Westerly and Westerly breezes extending later to the Channel stations, and wind freshening from South and South-West on our extreme north-west coasts.

Barometer highest, 30·2 ins. to 30·3 ins, or more, in a large anticyclone covering the whole of central, southern, and eastern Europe, and extending northwards as far as central England. Lowest, 29·8 ins. and less, in a shallow depression lying to the northward of our Islands. Brisk fall of barometer taking place over western Europe during day; anticyclone receding southwards and new depression beginning to approach the north of Scotland.

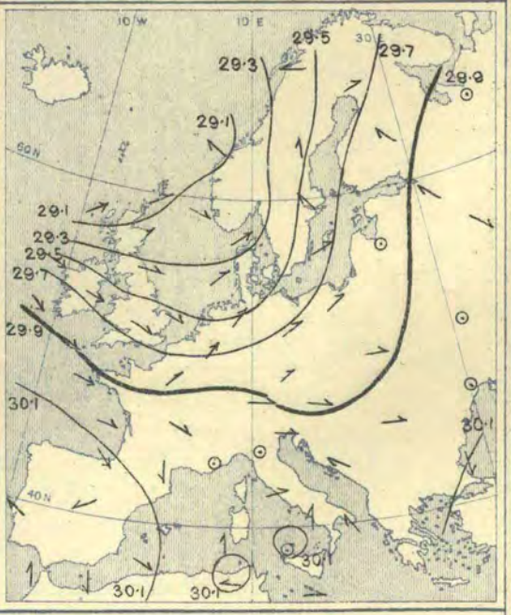
Wednesday, 15th October.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Austria, Hungary, and south-eastern Europe generally, as well as over the Iberian Peninsula and on the southern shores of the Mediterranean. Dull and gloomy over Russia, very changeable and unsettled elsewhere; squally and showery in many parts of the United Kingdom, temporarily clear in others. Rain falling later over the whole of western Europe, chiefly in heavy squally showers; thunder and lightning at some stations, and air becoming keen.

Temperature changing very suddenly and considerably over the British Islands and France. Highest in morning, 60° and more, at most of the Mediterranean and Spanish stations, and exceeding 50° at most of the coast stations of France, Ireland, England, Holland, and Denmark, and over our own midland counties. Lowest, 20° Faht. at Archangel, 34° at Moscow, and below 40° over the inland parts of Finland and Russia; 43° in the extreme north of Scotland. Rising during day to between 55° and 60° in many parts of England, to 70° or more over nearly the whole of southern Europe, and to 80° or more at some of the Algerian stations.

Wind strong to moderate from West and North-West over our Islands, South-Westerly over the Netherlands, Southerly in Denmark and Norway, South-Easterly to Easterly over Lapland; moderate Westerly to North-Westerly in the north of France, Easterly and variable in the south. Very variable in direction elsewhere, and of little force. Increasing to a gale on our west and north-west coasts later, and to a strong squally breeze in the south, and veering towards North-West in our Islands generally.

Barometer highest, 30·1 ins. and more, over all the southern parts of Europe, and exceeding 30·2 ins. over the Spanish Peninsula, and also over European Turkey. Lowest, 29·2 ins. and less, in a depression off the north of Scotland, and below 29·4 ins. at nearly all the Scotch and Norwegian stations. Northern depression moving north-eastwards slowly later, growing deeper, and developing a "V"-shaped secondary system over the north-east of Great Britain and the North Sea.

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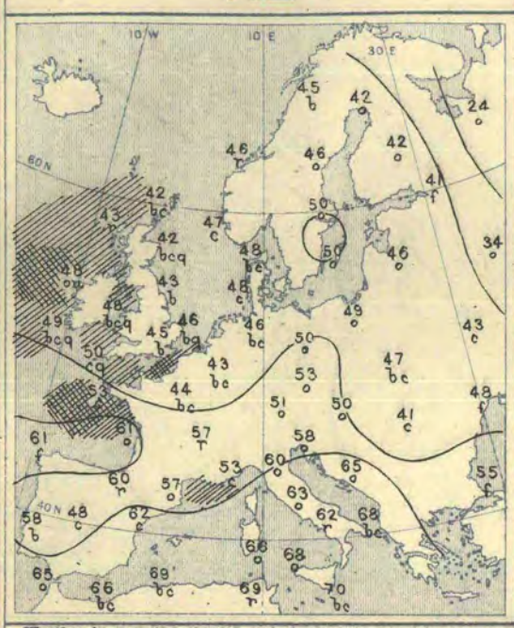
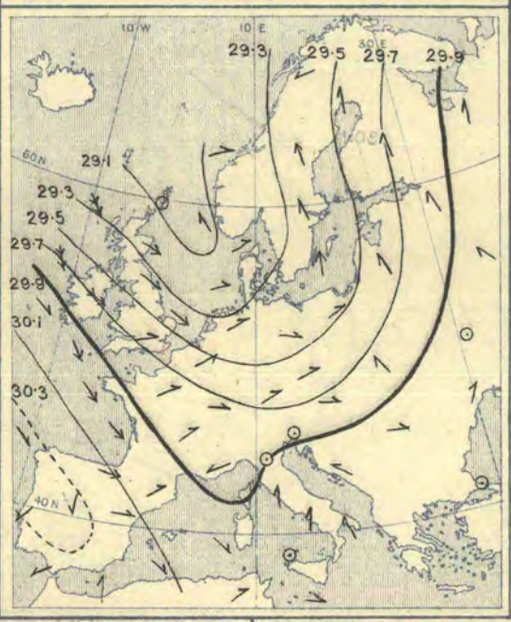
Thursday, 16th October.

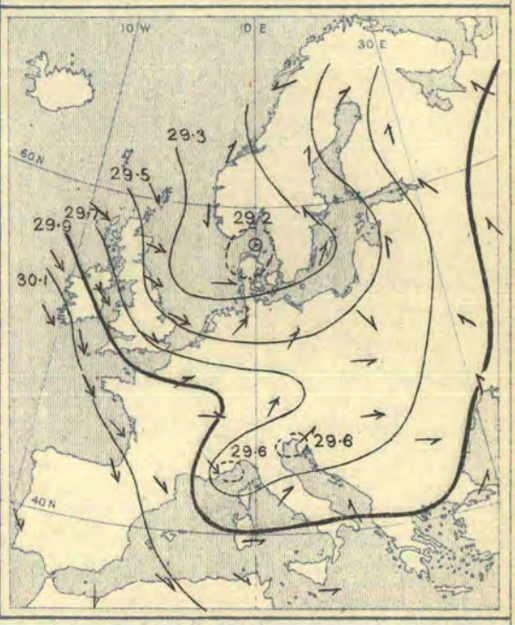
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning squally and showery in our Islands and France; dull in nearly all other countries, with fog at several of the Russian stations, rain in some parts of Italy and Algeria, and thunder at the Helder. Fine over the greater part of Austria. Thunder and lightning occurring later at many of the English stations, and also at Fanö, rain at times over western and northern Europe, and snow in one or two places.

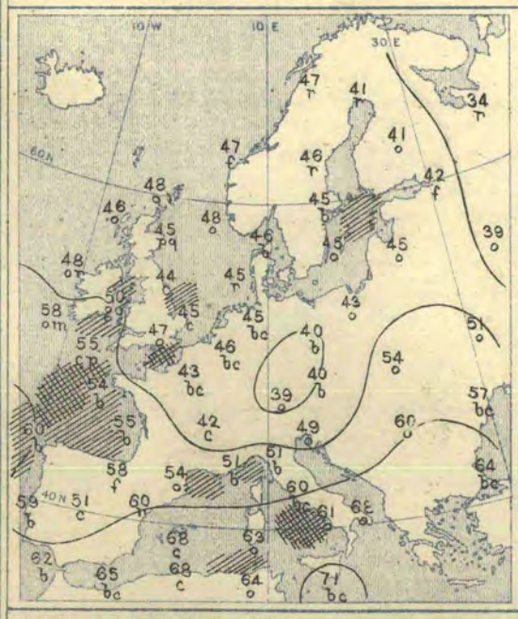
Temperature highest, 70° at Malta, 69° at Algiers, La Calle, and Tunis, and 68° at Brindisi and Malta; above 60° in nearly all parts of southern Europe, but below 50° over central Spain. Lowest, (1) 24° at Archangel, 34° at Moscow, 41° at St. Petersburg, and 42° at Haparanda; (2) 40° at Wick, 41° at Nairn, 42° at Sumburgh Head, and 43° at Stornoway, Shields, and Parsonstown. Daily maxima below 55° in nearly all parts of the United Kingdom, and below 50° at several of our northern stations, but touching 70° over Italy and the south of France, and exceeding 80° in some parts of Algeria.

Wind chiefly cyclonic; strong to a gale from the North-Westward over our Islands and the west of France, moderate or fresh from the South-Westward over the Netherlands, Denmark, Germany, and the east of France, light to fresh from the Southward or South-Eastward over Sweden, the south of Norway, and the northern and central parts of Russia. Light and variable over Austria and the south of Russia, and also in Algeria; Southerly in Italy, North-Easterly or Northerly in Spain. Strong gale experienced later over Irish Sea and a strong squally wind over our Islands generally.

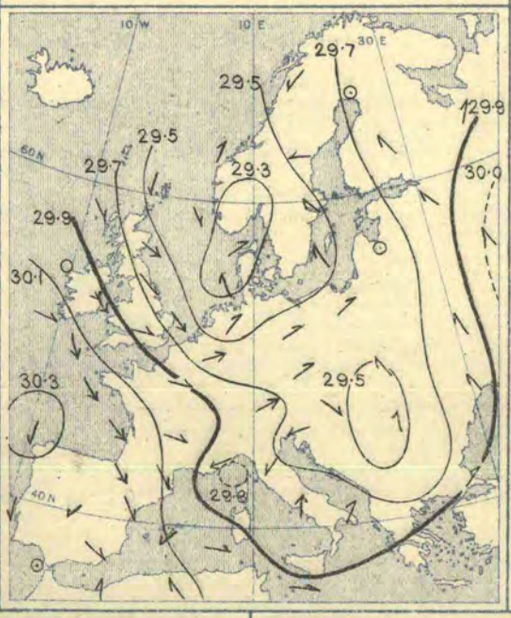
Barometer highest, 30·2 ins. and upwards, in an anticyclone lying over Spain; 30·0 ins. and upwards over Russia. Lowest, 29·1 ins. and less, in a depression lying between the Scotch and Norwegian coasts. Gradients steep over the whole of our Islands. Depression subsequently travelling south-eastwards to the extreme south of Norway and the north of Denmark, small secondary disturbance moving southwards along the east coasts of Great Britain.

Friday, 17th October.

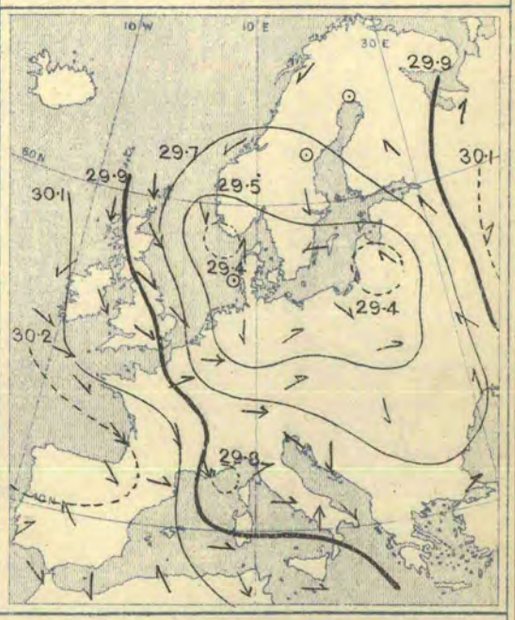
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine over Spain and many parts of France and north Germany, as well as over the north-eastern and midland counties of England; dull and unsettled elsewhere, with showers in some parts of our Islands; steady rain over the northern half of Sweden, Lapland, and in some parts of Poland and the Baltic Provinces. Very unsettled generally. Rain later, mostly in showers, over the greater part of Europe, but not in Russia; a heavy local fall at La Calle (Algeria) also.

Temperature highest, 60° and more, over south-western and south-eastern Europe and the southern parts of the Mediterranean; lower elsewhere, but not very low in any region. Below 50° over Great Britain and the northern part of the Continent as a whole, and as low as 34° at Archangel and 39° at Moscow. Rising to 60° and more in the western and southern parts of France later, to 70° and more over southern Italy, and to 80° and more over some parts of Algeria.

Wind fresh to a gale from the North-Westward on the coasts of Scotland, England, and the north of France, moderate to fresh from South-West in north Germany, and moderate from South-East over the Baltic and Finland. Very variable elsewhere, but as a whole Southerly at the Russian stations. North-Westerly gale moderating in most places later, but a severe West-North-Westerly gale reported as prevailing in squalls at Aberdeen in the afternoon.

Barometer highest, 30·0 ins. to 30·3 ins., over the south-western parts of our Islands, the Bay of Biscay, Spain, the greater part of France, and the western portions of the Mediterranean; exceeding 30·0 ins. over south-eastern and central Russia also. Lowest, 29·3 ins. and less, in a depression over the eastern shores of the North Sea; 29·5 ins. and less in another over Hungary, and below 29·6 ins. all over northern and eastern Germany. Gradients steep in many places. Rising slightly over western Europe later; shallow secondary disturbances moving south-eastwards over parts of the British Islands and France.

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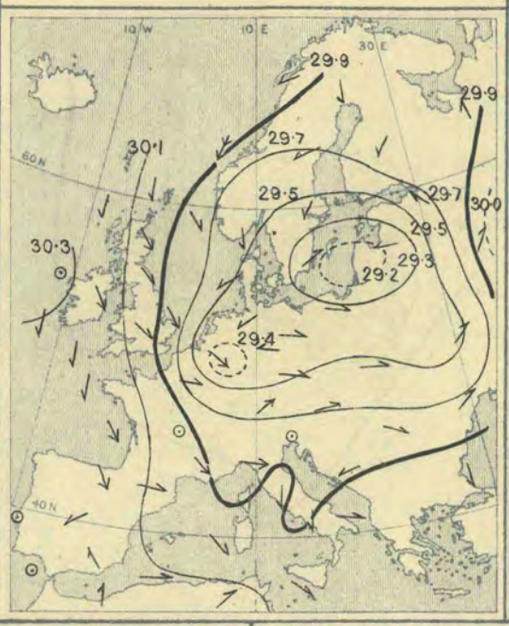
II.—SUMMARY OF WEATHER OVER EUROPE.

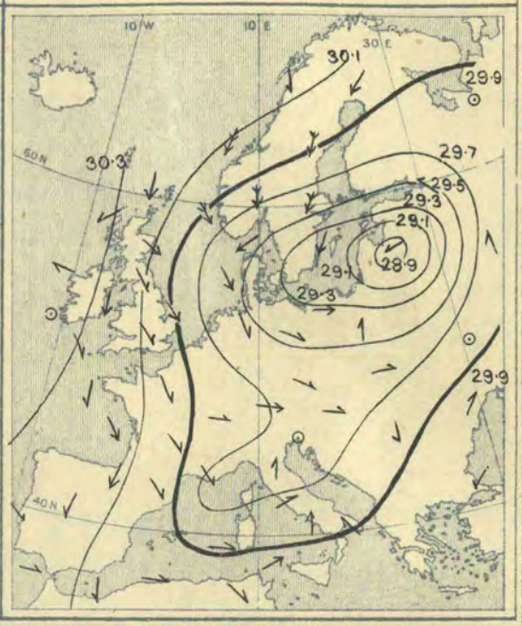
Saturday, 18th October.

Temperature and Weather. — **8 a.m.**

Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather very dull, unsettled, and rainy over the Baltic, northern and central Europe, as well as at Constantinople; cloudy and squally over Great Britain, the Netherlands, Channel, and north of France; fine over western France and on the southern shores of the Mediterranean only. Rainfall considerable during subsequent 24 hours over all but the most western countries, slight showers in some parts of our Islands, but none in the south and south-west. Heavy local fall reported at Cape Sicié.

Temperature in morning exceeding 60° on southern shores of Mediterranean and on Portuguese coast; exceeding 50° in the south-western parts of our Islands and France, as well as at many coast stations in south-eastern Europe. As high as 49° at St. Petersburg and 47° to 48° at several other Russian stations and over western Europe. Lowest, 33° at Parsonstown, 34° at Archangel, 35° at Haparanda, 38° at Hernösand, 39° at Warsaw, 41° at Bodö, 42° at Sumburgh Head, Munich, Cracow, and Buda Pesth. Rising later to between 50° and 60° over the greater part of the United Kingdom, to between 60° and 70° in south of France, to 70° and more in south Italy and parts of Algeria.

Wind Northerly to North-Westerly over western Europe, moderate to strong in force and blowing a gale at some of our eastern stations; Westerly over Germany and Austria, Easterly and North-Easterly over northern Europe, North-Westerly to Northerly over the Mediterranean. The Westerly wind over the Baltic and the North-Easterly wind over northern Europe increasing in force later, but the Northerly wind in our Islands moderating.

Barometer highest, 30·1 ins. to 30·3 ins., over the western parts of the British Islands, France, and the Spanish Peninsula, and exceeding 30·0 ins. over central and eastern Russia. Much lower over northern and central Europe; lowest, 29·2 ins. and less, in a depression over the Baltic; 29·4 ins. and less in another near Münster; 29·9 ins. and less over the Gulf of Genoa and central Italy. Rising in our Islands later, and gradients for Northerly winds becoming steep over the North Sea as the depression over the Baltic Provinces became much deeper.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week a large anticyclonic system covered nearly the whole of western Europe, causing cold, quiet, foggy weather, and very variable light winds. In the far north, however, and over Russia, low-pressure areas of little intensity were observed, and in these regions the weather was unsettled and showery, with snow in places.

After Tuesday (14th) a marked change occurred; a large depression arrived off the west of Scotland from the Atlantic and spread thence in a southerly direction, over nearly the whole of central Europe, to the Mediterranean. This dispersed the fogs, and for a time caused warmer weather generally; but in its rear North-Westerly to Northerly gales and strong winds set in over the British Isles and the North Sea, and at the close of the week were travelling in an easterly direction towards the Baltic. Over the United Kingdom and France the Northerly wind fell light, with cold, but quieter weather.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June,** *price* 4d. *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, and March,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 43]. *Third Series.* WEEK ENDING SATURDAY, 25TH OCTOBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 254.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	60	32	52·2	43·2	47·5	2 above.	39	+10	0	−11	1998	+197	438	−102
	1. SCOTLAND, EAST -	62	30	52·6	42·9	47·6	3 above.	39	+ 5	0	−12	2345	+ 50	485	− 90
	2. ENGLAND, N.E. - -	60	34	52·8	44·9	48·7	2 above.	47	+12	0	− 8	2613	+146	389	−111
	3. ENGLAND, EAST -	60	33	53·0	42·8	47·8	1 below.	41	+ 1	0	− 8	2890	+ 55	477	− 47
	4. MIDLAND COUNTIES	59	29	52·0	42·1	46·9	1 below.	34	− 5	0	−10	2817	+ 19	486	− 44
	5. ENGLAND, SOUTH -	59	36	54·8	43·5	49·0	1 below.	49	+ 2	0	− 5	3106	+ 36	308	− 76
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	60	27	54·5	43·2	48·7	2 above.	47	+ 9	0	− 8	2496	+ 80	325	− 93
	7. ENGLAND, N.W. -	58	33	52·9	45·5	49·1	1 above.	50	+11	0	− 5	2702	+125	302	− 92
	8. ENGLAND, S.W. -	61	27	56·2	44·0	50·0	0 (average)	56	+ 2	0	− 2	2931	− 12	245	+ 7
	9. IRELAND, NORTH -	60	37	55·3	46·5	50·8	4 above.	62	+23	0	− 7	2610	+109	294	− 72
	10. IRELAND, SOUTH -	61	32	57·2	47·9	52·4	4 above.	73	+26	0	− 5	2953	+120	224	− 25
	— CHANNEL ISLANDS -	59	39	57·2	48·1	52·5	1 below.	74	+ 5	0	0	3277	+ 59	71	− 22

Rainfall. **Bright Sunshine.**

	DISTRICTS. (See p. 254.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	13	1 more.	215*	+31	44·5*	+ 1·4	7	10	965	−181	24	− 5
	1. SCOTLAND, EAST -	5	6	2 less.	177	+19	25·4	− 1·1	9	13	1183	−115	30	− 3
	2. ENGLAND, N.E. - -	4	6	0 (average)	149	− 4	19·7	− 3·0	3	5	1155	− 33	30	0
	3. ENGLAND, EAST -	4	3	4 less.	147	− 9	18·7	− 2·5	7	10	1466	+ 28	38	+ 1
	4. MIDLAND COUNTIES-	4	5	3 less.	144	− 9	18·1	− 6·4	3	4	1277	− 12	33	0
	5. ENGLAND, SOUTH -	4	4	3 less.	142	− 4	21·6	− 1·2	9	13	1380	− 2	36	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	5	6	7 less.	182	+12	41·1	− 2·9	8	12	1227	− 22	31	− 1
	7. ENGLAND, N.W. - -	5	8	2 less.	170	+12	27·3	− 1·3	8	11	1167	− 80	30	− 2
	8. ENGLAND, S.W. - -	3	6	5 less.	171	+ 5	28·9	− 6·5	17	24	1408	− 83	36	− 3
	9. IRELAND, NORTH -	4	7	2 less.	198	+10	28·6	− 0·9	5	8	1147	− 15	29	− 1
	10. IRELAND, SOUTH -	3	4	5 less.	183	+ 8	31·7	− 0·8	10	15	1267	− 63	33	− 1
	— CHANNEL ISLANDS -	3	4	5 less.	164	−16	24·9	− 1·4	11	15	1671	− 93	43	− 3

General Remarks.

Weather has been extremely dull in nearly all parts of the Kingdom and the air damper than of late. Rain has fallen from time to time, but the amounts have, as a rule, been slight.

Temperature has been above the mean in Scotland, Ireland, and the northern parts of England; in the other English districts it has been generally below the normal. The highest of the maxima were recorded at most stations either on the 23rd or 24th, and varied from 62° in "Scotland E." to 58° in "England N.W." The lowest of the minima, which were recorded on the 25th in the north, but on irregular dates elsewhere, ranged from 27° in "Scotland W." and "England S.W.," and 29° in the "Midland Counties," to 36° in "England S.," 37° in "Ireland N.," and 39° in the "Channel Islands."

Rainfall has been more than the mean in "Scotland N." and equal to it in "England N.E.," but in all the other districts a deficit is shown.

Bright Sunshine has been very deficient, the percentage of the possible amount of duration having ranged from 4 in the "Midland Counties" and 5 in "England N.E." to 15 in "Ireland S." and the "Channel Islands," and 24 in "England S.W."

Barometer and Wind.—The distribution of pressure has been anticyclonic. During the earlier days of the week a high-pressure system moved eastwards from the Atlantic and effected a junction with a similar system over the North Sea. The winds during this time were generally Northerly and light in force. During the remainder of the period the anticyclone moved slowly southwards and the wind shifted to the North-Westward and Westward. At the end of the week some small shallow depressions, subsidiary to larger systems in the far north and north-east, had appeared over our Islands.

* The corresponding values in last week's Report should read "209" and "43·5" respectively.

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36 350 10 | 90 607

III.—DATA from which the SUMMARY on page 253 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	55	38	49·7	42·1	45·8	+0·3	27	0	5	0·50	—0·49	*	*
	Stornoway	56	38	52·6	44·1	48·2	+3·2	43	0	7	1·81	+0·70	4·5	7
	Wick	58	37	50·6	43·0	46·7	+1·6	33	0	6	0·96	+0·31	*	*
	Lairg Ⓢ	58	33	51·7	43·3	47·4	+3·3	38	0	6	0·89	—0·05	*	*
	Glencarron Ⓢ	55	32	51·9	41·8	46·7	+2·4	34	1	7	3·32†	+1·34	?	?
	Fort Augustus Ⓢ	60	35	54·7	43·7	49·0	+3·1	49	0	5	0·70†	—0·24	7·4	11
	Fort William Ⓢ	57	35	53·9	44·3	48·8	+2·4	48	0	5	1·22†	—0·60	9·0	13
1. SCOTLAND, E.	Nairn	58	41	51·6	44·6	48·0	+2·4	42	0	5	0·53	0·00	*	*
	Aberdeen	62	42	52·6	44·4	48·4	+3·1	45	0	4	0·61	—0·04	10·0	15
	Braemar Ⓢ	56	34	51·1	39·9	45·3	+3·3	32	6	6	0·40	—0·50	14·0‡	21‡
	Ochtertyre Ⓢ	61	30	55·1	40·9	47·8	+2·8	45	3	5	0·30	—0·71	*	*
	Leith Ⓢ	59	37	54·4	44·6	49·4	+3·6	52	0	4	0·83	+0·38	5·4‡	8‡
	Marchmont Ⓢ	55	38	51·0	43·1	46·9	+3·6	34	0	5	0·76	—0·01	5·8	9
2. ENGLAND, N.E.	Alnwick Castle	58	34	52·3	44·3	48·2	+2·4	43	0	4	1·62	+1·00	*	*
	Durham	60	37	53·9	44·0	48·8	+2·9	48	0	4	0·42	—0·26	8·3	12
	Shields	60	42	53·3	45·3	49·2	+2·5	50	0	4	0·75	+0·19	*	*
	Scarborough ℳ	55	42	51·6	44·9	48·2	+1·8	43	0	4	0·23	—0·48	1·0‡	1‡
	York	58	43	54·0	44·3	49·0	+1·4	49	0	5	0·40	—0·15	0·9	1
	Spurn Head	56	44	51·7	46·3	48·9	+1·3	48	0	3	0·12	?	*	*
3. ENGLAND, E.	Hillington ℳ	58	40	52·5	43·6	47·9	+0·1	41	0	5	0·16	—0·44	4·9	7
	Yarmouth	57	41	52·3	44·3	48·2	—0·7	43	0	4	0·15	—0·53	*	*
	Geldeston	60	37	53·7	41·9	47·6	—1·5	40	0	5	0·30	—0·31	11·1	16
	Cambridge	60	35	54·6	42·7	48·5	—0·1	46	0	3	0·33	—0·17	6·3	9
	Rothamsted	56	33	51·9	41·5	46·6	—1·2	34	1	3	0·31	—0·39	5·9	8
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	59	35	53·0	44·3	48·5	+0·6	46	0	4	0·33	—0·33	2·3‡	3‡
	Loughborough	57	42	51·9	44·9	48·3	+1·1	44	0	4	0·23	—0·45	0·5‡	1‡
	Cheadle ℳ	54	35	50·1	42·4	46·1	—0·4	29	0	5	0·71	—0·14	*	*
	Churchstoke ℳ	55	29	53·0	40·2	46·4	—0·8	38	5	5	0·38	—0·44	5·0	7
	Hereford ℳ	57	31	52·7	39·5	45·9	—2·0	38	7	3	0·46	—0·20	*	*
	Cirencester	55	34	51·7	40·6	46·0	—1·9	34	4	4	0·59	—0·12	8·7	10
	Oxford	55	39	51·6	43·1	47·2	—1·1	36	0	3	0·42	—0·18	0·5	1
5. ENGLAND, S.	London	58	39	54·4	44·1	49·1	—0·1	50	0	4	0·43	—0·18	6·1‡	9‡
	Strathfield Turgiss ℳ	58	36	54·7	42·8	48·6	—0·4	46	0	4	0·42	—0·19	*	*
	Dungeness	58	36	53·6	43·4	48·4	—1·4	45	0	5	0·51	—0·26	9·4‡	13‡
	Hastings (St. Leonards)	58	41	53·9	44·4	49·0	—1·1	49	0	5	0·56	—0·26	10·1	14
	Southampton	58	38	55·4	42·6	48·8	—1·3	48	0	4	0·33	—0·41	10·1	14
	Hurst Castle	59	38	57·0	43·4	50·0	—0·5	56	0	2	0·38	—0·34	*	*
	Stowell ℳ												‡	‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	60	35	55·3	43·8	49·4	+2·5	52	0	6	1·42‡	—0·38	*	*
	Glasgow	56	34	53·0	43·1	47·9	+3·0	41	0	5	0·10	—0·81	7·4	11
	Ardrossan	59	35	55·0	45·4	50·1	+3·4	57	0	3	0·32	—0·64	*	*
	Glenlee Ⓢ	59	27	54·8	39·4	46·9	+1·0	45	7	5	0·55†	—0·79	*	*
	Douglas (Isle of Man)	58	33	54·6	44·4	49·4	+1·3	52	0	5	0·47	—0·52	8·4	12
7. ENGLAND, N.W.	Newton Reigny	57	33	52·5	43·4	47·8	+2·1	41	0	6	0·75	—0·05	7·3	11
	Stonyhurst	55	36	51·6	43·7	47·5	+0·7	39	0	3	1·36	+0·13	6·7	10
	Blackpool ℳ	56	39	53·2	45·9	49·4	+0·4	52	0	4	0·40	—0·57	9·2	13
	Manchester	57	36	51·1	43·7	47·3	—0·3	37	0	5	0·70	—0·25	*	*
	Liverpool Obsy. (Bidston)	57	41	53·3	46·6	49·9	+1·0	55	0	4	0·99	+0·19	*	*
	Llandudno ℳ													
	Holyhead	58	43	55·7	49·7	52·6	+2·3	74	0	5	0·51	—0·49	*	*
8. ENGLAND, S.W.	Llandovery	58	27	53·1	37·3	45·0	—4·3	41	13	7	0·88	—0·37	*	*
	Pembroke	57	46	55·9	49·0	52·4	+0·8	73	0	3	0·55	—0·38	9·6	14
	Arlington (N. Devon)	57	34	55·1	41·6	48·2	—0·6	45	1	3	1·34	—0·01	*	*
	Cullompton ℳ	59	30	56·9	42·0	49·2	—0·1	50	0	3	0·32	—0·58	15·7	24
	Falmouth	59	47	56·5	48·5	52·4	+0·9	73	0	2	0·77	—0·48	21·9	31
	Plymouth	61	40	58·1	44·6	51·2	+0·3	64	0	2	0·19	—0·66	19·8	28
	Prawle Point	61	40	58·1	45·3	51·5	+0·4	67	0	2	0·22	?	*	*
9. IRELAND, N.	Malin Head	58	47	55·4	49·6	52·4	+5·4	73	0	6	0·45	?	*	*
	Londonderry	58	37	55·1	45·8	50·3	+3·6	58	0	4	0·76	—0·23	*	*
	Mullaghmore	56	47	55·3	49·3	52·2	+5·3	71	0	6	1·07	+0·12	*	*
	Belmullet	58	44	55·9	48·9	52·3	+2·7	72	0	4	1·07	?	*	*
	Markree Castle	56	39	55·3	47·0	51·0	+4·7	63	0	6	1·22	+0·35	6·5	9
	Brookeborough	60	38	54·5	42·4	48·3	+2·5	44	0	2	0·54	?	*	*
	Armagh	59	37	55·3	43·6	49·3	+2·9	51	0	2	0·27	—0·42	4·0	6
	Donaghadee	59	42	56·6	47·0	51·7	+2·7	68	0	3	0·17	—0·58	*	*
	Edgeworthstown	59	42	54·4	41·7	49·4	+3·4	52	0	5	0·54	—0·16	*	*
10. IRELAND, S.	Dublin	60	41	56·7	48·0	52·2	+4·1	71	0	3	0·27	—0·42	11·8	17
	Parsonstown	58	32	56·4	42·9	49·5	+2·5	53	0	3	0·49	—0·23	9·7	14
	Kilkenny	58	41	55·7	45·3	50·4	+3·1	59	0	2	0·41	—0·27	*	*
	Waterford	61	43	57·4	47·7	52·2	+2·5	71	0	2	0·39	—0·55	*	*
	Roche's Point	60	48	58·9	50·9	54·8	+4·4	90	0	2	0·13	—0·82	*	*
	Valencia	61	46	58·9	51·6	55·1	+4·0	92	0	3	0·62	—0·76	9·6	14
	Killarney	60	41	57·7	49·5	53·5	+3·8	81	0	3	0·40	?	*	*
	Foynes	58	40	56·0	47·4	51·6	+3·6	67	0	3	0·73	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	59	49	57·4	49·7	53·4	0·0	80	0	2	0·23	—0·65	*	*
	Jersey	59	39	56·9	46·4	51·5	—1·4	67	0	3	0·59	—0·40	10·9	15

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

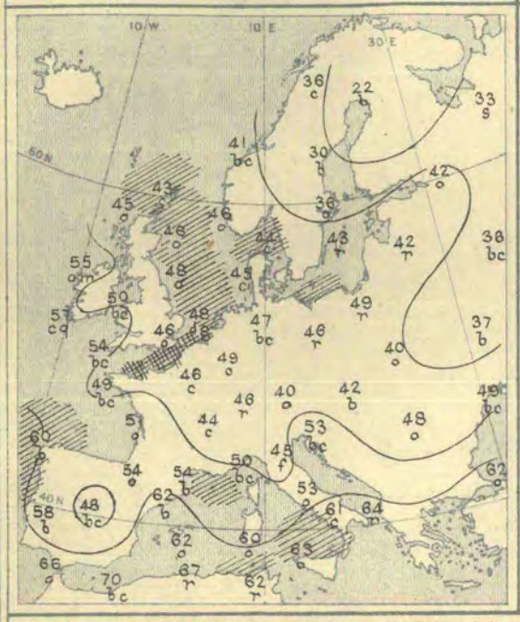
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 19th October.

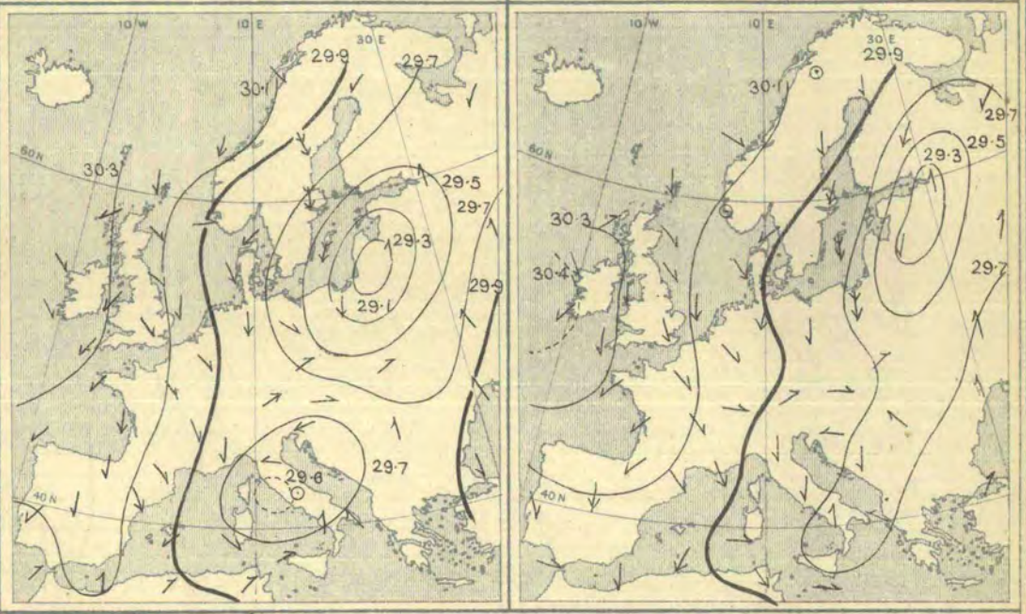
Temperature and Weather. 8 a.m.



Weather still dull, rainy, and unsettled over the Baltic, dull over central, south-eastern, and southern Europe, with rain at times; fine and bright over Lapland and the north of Sweden, fair as a whole over the British Islands, France, and Spain, but overcast in many places. A good deal of rain later over Germany and some of the eastern shores of the North Sea (with snow over northern Russia), and slight quantities on our own north and north-west coasts; fair, but dull, over England, the south of Ireland, and west of France.

Temperature risen decidedly in Ireland, fallen, as a whole, elsewhere—rapidly over Sweden and Russia. Morning readings above 60° over the southern parts of the Mediterranean and on the Portuguese coasts, and above 50° on the Irish coasts and at Scilly; lower elsewhere, and below 40° all over Russia. Lowest of all, 22° at Haparanda and Uleaborg, 30° at Hernösand, 33° at Archangel, and 36° at Stockholm and Moscow. Not touching 60° at any of our own stations later, and falling short of 50° over the greater part of Germany, but slightly exceeding 60° in the south of France, and exceeding 70° at several of the Spanish, Italian, and Algerian stations, the highest readings of all being 77° at Sfax and 75° at Lisbon.

Barometer and Wind. 8 a.m. and 6 p.m.

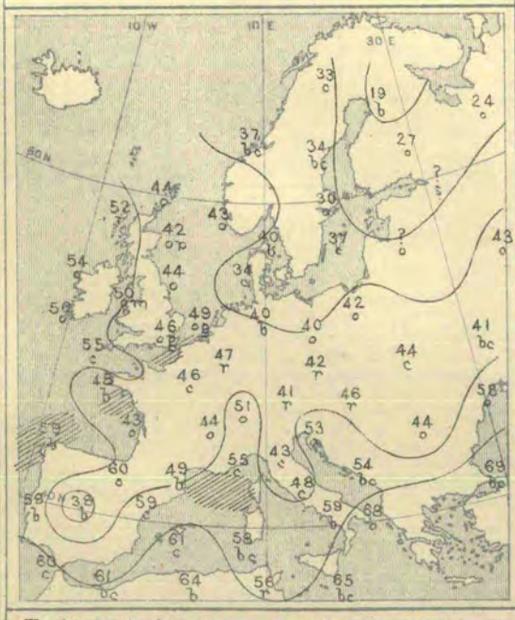


Wind blowing a gale from the Northward over Sweden, and strong from the same quarter over north Germany; moderate to light from Northward (but variable) over the British Islands and France, strong North-Westerly over the northern parts of the Baltic, Westerly to South-Westerly over central and eastern Germany, Southerly (light) in Russia. Gale moderating later in Sweden, but wind increasing in some parts of north Germany; no important change occurring elsewhere.

Barometer highest, 30·1 ins. to 30·4 ins., over the British Islands, the Bay of Biscay, Spain, the western parts of France; 29·9 ins. to 30·1 ins. over the south-east of Russia. Much lower over the Baltic, central and south-eastern Europe, lowest of all being 29·1 ins. and less in a depression over the Baltic Provinces of Russia, and 29·6 ins. and less in another over the west of Italy. Rising very slowly over the British Islands later, but beginning to fall a little in the Hebrides and north of Scotland. Depression over Baltic Provinces moving slowly north-eastwards during day.

Monday, 20th October.

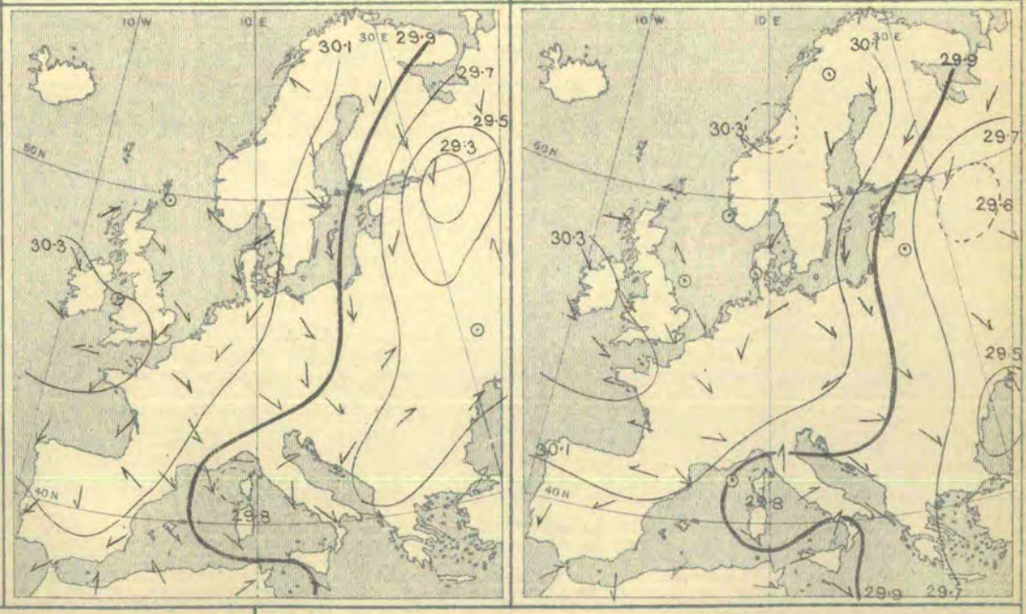
Temperature and Weather. 8 a.m.



Weather fine in the extreme south of England, as well as over Scandinavia, Denmark, and the greater part of southern Europe. Dull elsewhere, with rain in the north of our Islands, and also in Germany and Tunis; snow at St. Petersburg and a thunderstorm at Sfax. Rain extending later to the east and south-east of England; heavy fall (0·33 in.) taking place at Kharkov.

Temperature highest, 68° at Constantinople, 68° at Brindisi, 65° at Malta, and 64° at Algiers and Sfax; reaching 55° or more in the extreme south-west of our Islands. Lowest, 19° at Uleaborg, 21° at Haparanda, 27° at Kuopio and Helsingfors, and 28° at Hangö; below 40° in nearly all parts of northern Europe, and also over central Spain; below 45° over the northern and central parts of Great Britain, and also in the north of Italy. Subsequently rising to between 55° and 60° in the west of our Islands, but remaining below 50° at several of our northern stations. Daily maxima exceeding 70° over Algeria and the southern parts of Spain and Italy.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind Northerly over the greater part of Europe and strong in force over Finland and the Baltic. Light from the Westward or South-Westward in the north of our Islands, and from the South-Eastward in the west of Norway. Chiefly North-Westerly in Italy, South-Westerly in the south of Russia, Southerly in Algeria. Subsequently shifting to the Eastward in the west of France, and backing to the South-Westward in Italy, but very little change occurring elsewhere.

Barometer, 30·2 ins. to 30·3 ins. and upwards, in an anticyclone lying over our Islands, the Bay of Biscay, the west of France, and the extreme west of Norway. Lowest, 29·3 ins. and less, in a depression lying over Russia, with its centre a little to the south-eastward of St. Petersburg; 29·8 ins. and less in another disturbance over the Gulf of Genoa. Very shallow depression lying to the northward of our Islands in morning and subsequently spreading southwards across Scotland and the north of England. New disturbance, with readings below 29·5 ins., appearing over the south of Russia.

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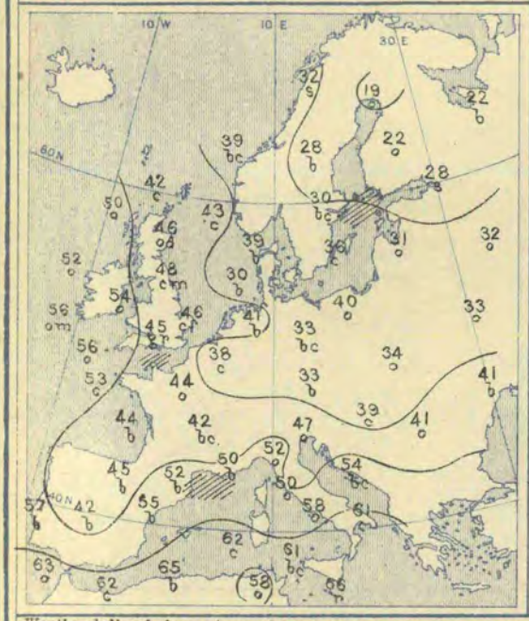
Tuesday, 21st October.

Temperature and Weather.

8 a.m.

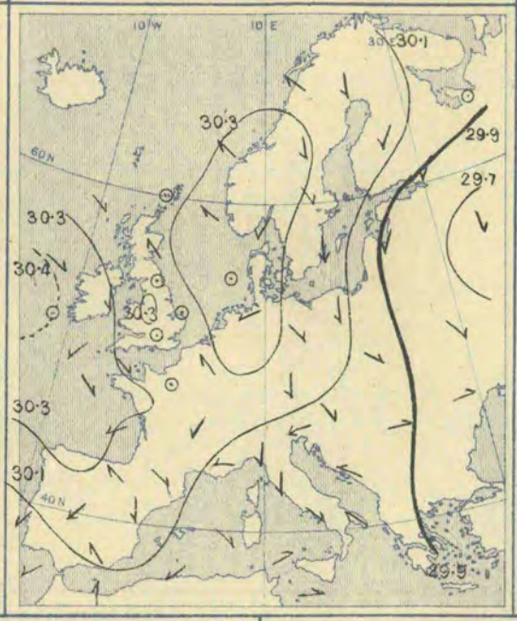


Weather dull and gloomy in our Islands, with mist or fog, and slight rain in many places; dull also in Russia, Austria, and Italy, with snow at St. Petersburg. Fine in nearly all other parts of Europe. Rain and snow setting in later at some of the Scandinavian stations; considerable amounts of rain falling in some parts of Algeria.

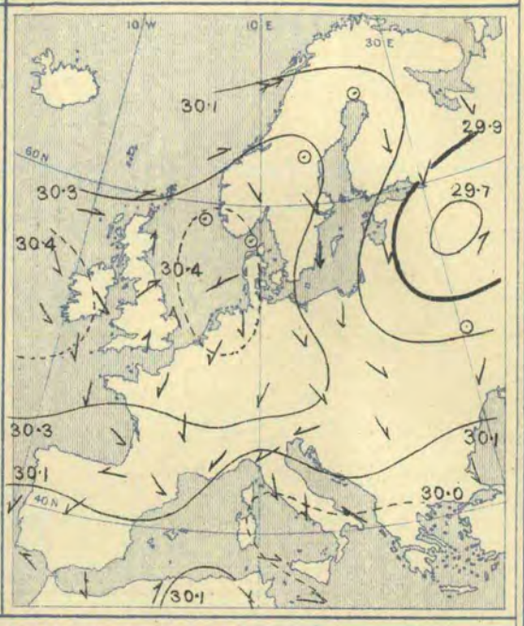
Temperature highest, 66° at Malta, 65° at Algiers, 63° at San Fernando, and 62° at Cagliari and Oran; above 55° at nearly all the Mediterranean stations, as well as at Valencia Island and Scilly. Lowest, 19° at Uleaborg, 22° at Archangel, Kuopio, and Helsingfors, and 23° at Haparanda and Hangö; below 40° in nearly all parts of northern and central Europe, and below 45° over central Spain. Daily maxima below 55° in all the more northern and eastern parts of the United Kingdom, but thermometer exceeding 60° in the south of France, and exceeding 70° in Spain, Algeria, and Sicily. Ground frost occurring over the south-east of England at night.

Barometer and Wind.

8 a.m.



6 p.m.



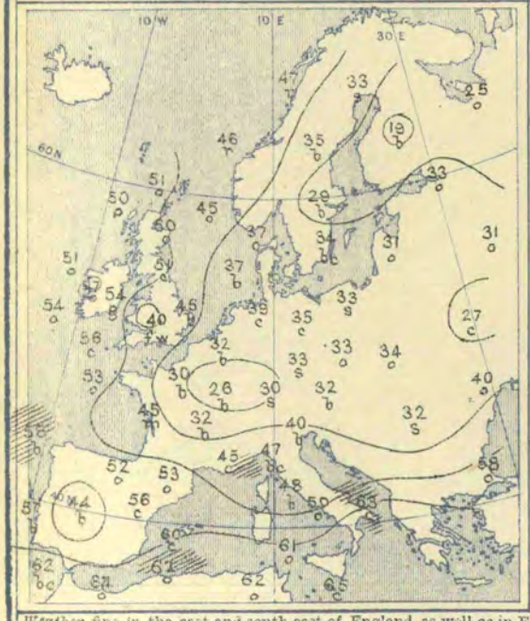
Wind light and variable over all the more eastern parts of Great Britain, light from the South-Eastward in the west of Norway, and also in the Netherlands. Northerly over nearly all other parts of Europe, but drawing into North-East in Spain and the south-west of France. Chiefly Southerly in Algeria, Westerly in the south of Russia. No important change occurring during day, excepting in the north-west of Norway, where a fresh South-Westerly gale set in.

Barometer highest, 30·3 ins. to 30·4 ins., in a large anticyclone lying over Ireland, the south-west of England, the north-west of France, and the Bay of Biscay, and also in another large system covering Scandinavia, Denmark, the North Sea, and the Netherlands. Lowest, 29·7 ins. and less, in a depression lying over Russia; 30·0 ins. and less in a somewhat ill-defined disturbance over the Gulf of Genoa. The two large anticyclones subsequently uniting and covering nearly the whole of western Europe; depression over Russia becoming somewhat deeper.

Wednesday, 22nd October.

Temperature and Weather.

8 a.m.

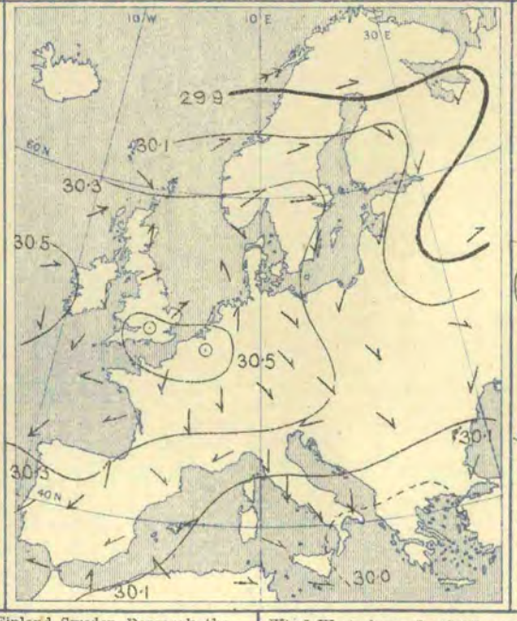


Weather fine in the east and south-east of England, as well as in Finland, Sweden, Denmark, the Netherlands, France, and Spain. Dull in most other localities, with fog over central England, rain in the west of Norway and also in Algeria, and snow at some of the German and Austrian stations. Rain and snow setting in later over Finland, but no important change occurring elsewhere.

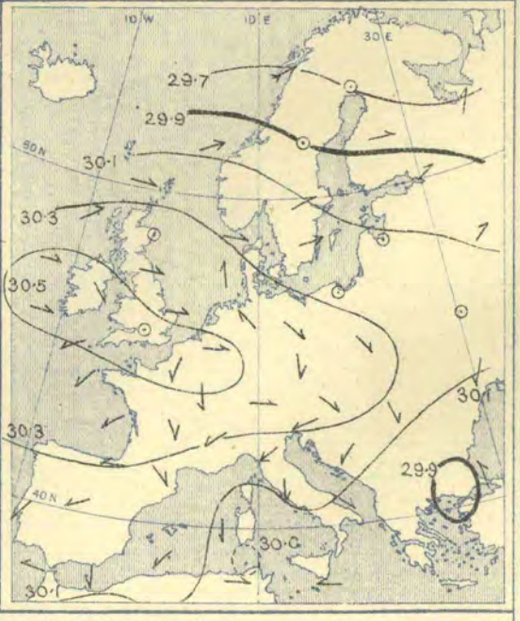
Temperature highest, 65° at Malta, 64° at Nemours, 63° at Brindisi, and 62° at Oran, Algiers, La Calle, and Sfax; above 55° at nearly all the Mediterranean stations, and also on the west coasts of the Iberian Peninsula. Lowest, 19° at Kuopio, 21° at Helsingfors, 23° at Uleaborg, 25° at Archangel, 26° at Belfort, and 27° at Kiev; a little below the freezing point in many parts of northern and central Europe. Daily maxima below 60° in nearly all parts of the United Kingdom, and below 50° in some parts of England, as well as over central France, but thermometer exceeding 70° in Algeria and the south of Spain, the highest reading of all being 77° at Biskra.

Barometer and Wind.

8 a.m.



6 p.m.



Wind Westerly or South-Westerly in Scotland and Scandinavia, strong in force in the west of Norway; North-Westerly or Northerly over Russia, central Europe, and Italy; North-Easterly over the Channel, France, and Spain. Variable over the central parts of our Islands, and also over the Netherlands and Algeria. Light Westerly breeze subsequently extending down our east coasts; wind veering to the Eastward in the Channel, but backing to the South-Westward over northern Russia.

Barometer highest, 30·4 ins. to 30·5 ins. and upwards, in a large anticyclone covering nearly the whole of our Islands and the North Sea, with the Netherlands, western Germany, and the east of France. Lowest, 29·9 ins. and less, over Lapland, and also over central Russia; 30·0 ins. and less over Greece. Russian depression filling up later, but no important change taking place elsewhere.

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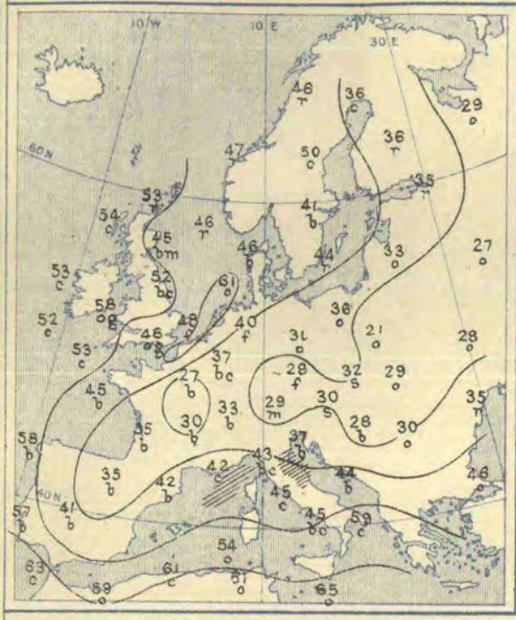
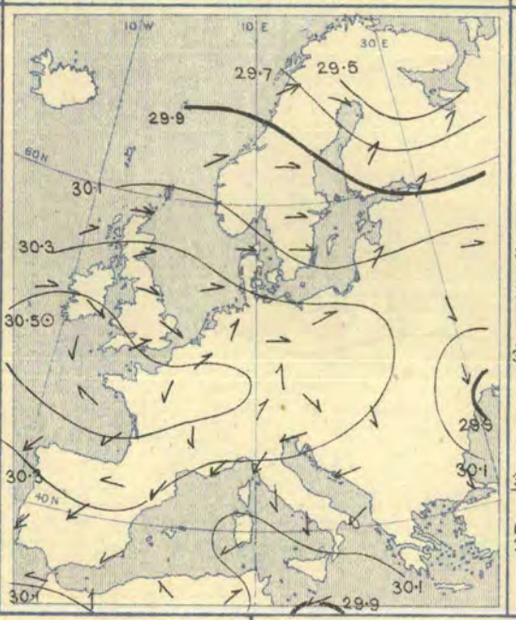
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 23rd October.

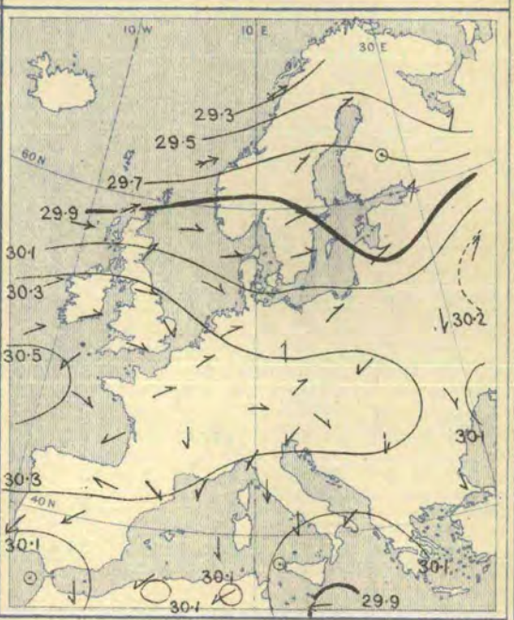
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in the east of Scotland and the north-east of England, as well as in France, Spain, and Italy. Cloudy or overcast elsewhere, with fog over the Netherlands, rain in Finland, the west of Norway, and the south of Russia, as well as in Tunis, and snow at Cracow and Vienna. Sky clearing later on our extreme west and south-west coasts, and also in Sweden, but rain falling in the north-west and north of our Islands and snow at Archangel.

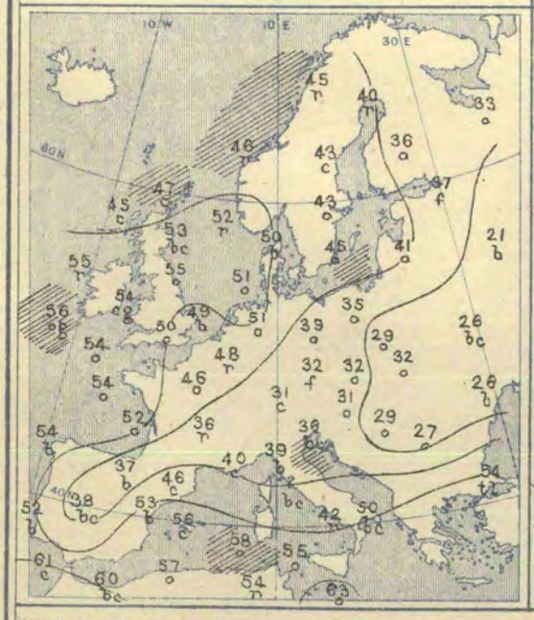
Temperature highest, 65° at Malta, 63° at San Fernando, and 61° at Oporto, La Calle, and Algiers; above 50° in many parts of the United Kingdom. Lowest, 21° at Warsaw, 27° at Moscow and Paris, and 28° at Kiev, Breslau, and Buda Pesth; below the freezing point in many parts of Russia and central Europe, and below 45° over northern Italy and central Spain. Daily maxima exceeding 55° at many of our western and northern stations, and reaching 62° at Aberdeen; readings lower over our eastern and midland counties, and also over France, Germany, and northern Italy. Rising above 70° in some parts of Spain and Algeria.

Wind light or moderate from the South-Westward or Westward in all the more northern parts both of our Islands and the Continent; strong in force in the north-west of Norway. Variable in the southern parts of the United Kingdom, light from the Northward over Austria and the south of Russia, moderate to strong from the North-Eastward over southern Europe, and light from the same quarter in France, light from the South-Eastward in Algeria. Subsequently increasing to a strong breeze from the Westward in the extreme north of Scotland and to a gale from the South-Westward in Norway.

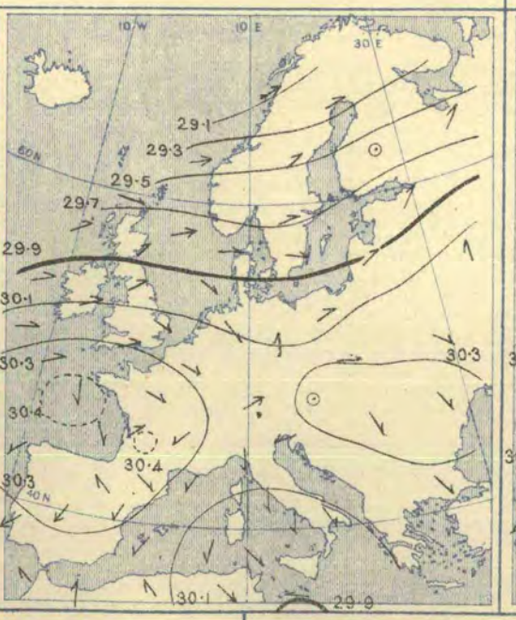
Barometer highest, 30·5 ins. and upwards, over Ireland, the south-west of England, and all the more northern parts of France; 30·2 ins. and upwards in a large anticyclone covering nearly the whole of western and central Europe. Lowest, 29·6 ins. and less, in a large depression over Lapland; 29·8 ins. and less in a small but well-defined depression lying near the Crimea; 30·0 ins. and less in a large shallow area to the southward of Italy. Brisk fall of the barometer taking place later in Norway and the north of our Islands; depression over south of Russia moving away north-eastwards.

Friday, 24th October.

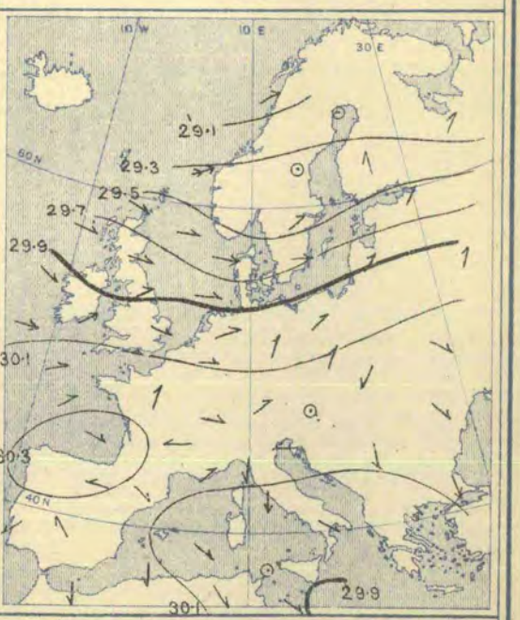
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in the east of Scotland, and also over the greater part of southern and eastern Europe. Cloudy or overcast elsewhere, with rain in the extreme north-west of our Islands, the west of Norway, and the north of Germany, as well as at Naples and La Calle. A thunderstorm was in progress at Constantinople. Rain falling later in nearly all parts of western Europe—heavily on the west coasts of Ireland and Norway. The newspapers report heavy snow-storms in the Austrian Alps.

Temperature highest, 63° at Malta, 61° at San Fernando, 60° at Oran, and 59° at Tunis; varying between 50° and 55° over the greater part of the United Kingdom. Lowest, 21° at Moscow, 26° at Kiev and Odessa, 27° at Hermanstadt, and 28° at Nicolaieff; below the freezing point in many parts of central Europe, and below 40° over central Spain and the north of Italy. Rising during day to between 55° and 60° in all but the extreme northern parts of the United Kingdom; daily maxima below 55° in the south of France and the north of Italy.

Wind, Westerly or South-Westerly over our Islands and all the more northern and central parts of the Continent; light or moderate in force generally, but strong to a gale on the Norwegian coasts. Light or moderate from the North-Westward in France, from the Northward over Italy and the south of Russia, and from the North-Eastward or Eastward in Spain; light from the South-Eastward or Southward in Algeria. Subsequently veering to the North-Westward in the north of Ireland and shifting to the Northward on the Algerian coasts; no important change occurring elsewhere.

Barometer highest, 30·2 ins. to 30·4 ins., in a large anticyclone extending from the Atlantic across Spain, France, and the south of our Islands to central and eastern Europe. Lowest, 29·1 ins. and less, in a depression lying over Finmark (gradients rather steep over Lapland); 29·9 ins. and less in a shallow disturbance lying to the southward of Malta. No important change occurring over western Europe during day, but Mediterranean depression spreading northwards over the south of Italy.

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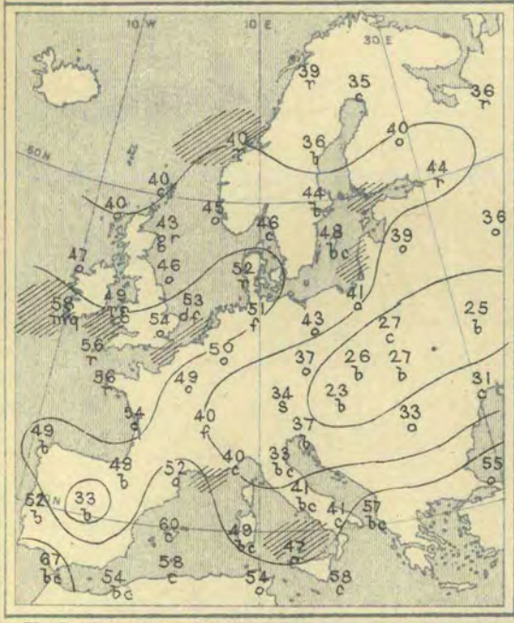
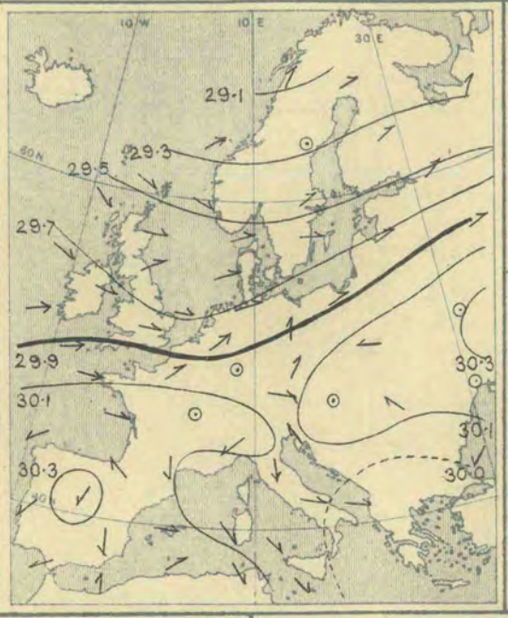
Saturday, 25th October.

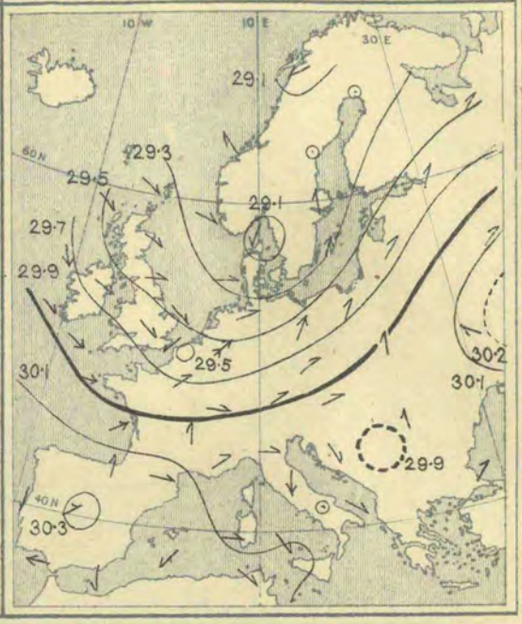
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and unsettled over nearly the whole of western and central Europe, as well as in Russia, with rain in many place and snow at Munich. Fine in Sweden, as well as in Spain, Italy, Algeria, and some parts of Austria. Improvement taking place later over the southern parts of the United Kingdom, but rain continuing in most other districts and snow falling in the north of Scotland. Snow also reported at some of the Austrian stations.

Temperature highest, 67° at San Fernando, 60° at Palma, and 58° at Algiers and Malta; above 55° over the English Channel, and also in the south of Ireland, but below 45° in the Riviera, and as low as 41° even at Naples. Lowest, 20° at Kharkov, 23° at Vienna, 25° at Kiev, and 26° at Cracow; below 35° over central Spain. Daily maxima below 45° in the north of Scotland, but thermometer rising to between 55° and 60° in the south-west and south of our Islands, and exceeding 60° in Spain, Algeria, the west of France, and the south of Italy.

Wind Westerly or South-Westerly over the greater part of north-western, northern, and central Europe, but North-Westerly in the extreme north and north-west of our Islands; strong in force over the southern parts of Ireland and England, and also at some of the Baltic stations. Strong from the North-Westward in Italy, light from the North-Eastward in Spain, variable in Algeria, Austria, and the south of Russia. Subsequently veering to North-West in all parts of the United Kingdom and increasing to a gale in the west of Ireland.

Barometer highest, 30·3 ins. and upwards, in the south of Russia, and also over central Spain; 30·1 ins. and upwards in a large anticyclone covering the whole of south-western, central, and eastern Europe. Lowest, 29·1 ins. and less, in a depression lying over Finmark. Shallow disturbance lying over the west of Ireland in morning and subsequently advancing to the Straits of Dover; other depressions appearing over our northern districts.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the beginning of the week a large anticyclone lay to the westward of the British Islands, while a well-marked depression was observed over the Baltic, and a shallower disturbance over the Mediterranean. The prevailing winds were therefore Northerly—light or moderate in force over the western countries, but strong to a gale over Sweden and the Baltic, with heavy snowstorms, both in Sweden and northern Russia. The weather systems then moved eastwards, and by the 21st the large anticyclone embraced nearly the whole of Europe, light Westerly breezes being experienced in the extreme north, but North-Easterly or Northerly winds in the more southern countries, with thick fogs at many of the inland stations.

On the 22nd, however, the high-pressure area began to move southwards, and by the close of the week its influence was confined to the Mediterranean and extreme south of Europe. In the meantime a series of large depressions travelled from the Atlantic to the Scandinavian Peninsula, so that Westerly or South-Westerly winds of increasing strength gradually extended over all the more northern parts both of our Islands and the Continent, with unsettled weather.

At the close of the week some secondary disturbances passed eastwards across the United Kingdom, and in the rear of these a brisk rise of the barometer took place on our western coasts. The wind consequently shifted to the North-Westward in all parts of the country, and on the night of the 21st increased to a gale in the west of Ireland.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March and April-June, *price* 4d. *each.*

SUPPLEMENT.—Monthly Summary of Observations, January, February, March, and April, *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 44]. *Third Series.* WEEK ENDING SATURDAY, 1ST NOVEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid,* £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 260.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	58	25	47·7	35·8	41·6	2 below.	16	− 7	25	+11	2014	+194	463	− 91
	1. SCOTLAND, EAST -	60	27	49·3	35·0	41·9	1 below.	20	− 7	28	+12	2365	+ 48	513	− 77
	2. ENGLAND, N.E. - -	59	26	50·0	36·8	43·2	2 below.	30	+ 2	15	+ 4	2643	+149	404	−106
	3. ENGLAND, EAST -	57	22	49·9	36·1	42·8	4 below.	30	− 2	17	+ 6	2920	+ 54	494	− 39
	4. MIDLAND COUNTIES	61	20	51·3	37·0	43·9	2 below.	34	+ 3	14	0	2851	+ 25	500	− 42
	5. ENGLAND, SOUTH -	60	22	52·7	38·9	45·6	2 below.	38	0	9	+ 1	3143*	+ 36	317	− 75
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	59	23	50·9	38·3	44·4	0 (average)	32	+ 1	10	− 1	2528	+ 84	335	− 92
	7. ENGLAND, N.W. -	57	21	50·7	38·8	44·5	2 below.	31	− 2	9	+ 1	2733	+126	311	− 91
	8. ENGLAND, S.W. -	63	28	53·4	42·4	47·7	1 below.	40	− 7	0	− 4	2971	− 18	245	+ 4
	9. IRELAND, NORTH -	59	31	52·3	41·1	46·5	1 above.	35	+ 2	3	− 6	2645	+114	297	− 75
	10. IRELAND, SOUTH -	63	33	53·9	43·7	48·7	1 above.	47	+ 5	0	− 7	3000	+127	224	− 31
	— CHANNEL ISLANDS -	60	37	54·7	46·6	50·5	1 below.	60	− 1	0	0	3337	+ 62	71	− 22

Rainfall.

	DISTRICTS. (See p. 260.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	7	23	12 more.	222	+32	47·6	+ 2·6
	1. SCOTLAND, EAST -	6	16	9 more.	183	+21	27·0	− 0·2
	2. ENGLAND, N.E. - -	5	10	3 more.	154	− 3	20·7	− 2·6
	3. ENGLAND, EAST -	5	8	2 more.	152	− 9	19·5	− 2·4
	4. MIDLAND COUNTIES-	5	4	3 less.	149	− 8	18·5	− 6·6
	5. ENGLAND, SOUTH -	6	4	3 less.	148	− 2	22·0	− 1·5
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	6	22	7 more.	188	+14	43·3	− 2·2
	7. ENGLAND, N.W. - -	6	13	4 more.	176	+13	28·6	− 1·0
	8. ENGLAND, S.W. - -	7	13	2 more.	178	+ 6	30·2	− 6·3
	9. IRELAND, NORTH -	7	16	8 more.	205	+12	30·2	− 3·2
	10. IRELAND, SOUTH -	6	11	3 more.	189	+ 9	32·8	− 0·6
	— CHANNEL ISLANDS -	7	10	0 (average)	171	−14	25·9	− 1·3

Bright Sunshine.

	DISTRICTS. (See p. 260.)	For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	11	17	976	−181	24	− 4
	1. SCOTLAND, EAST -	16	25	1199	−114	30	− 2
	2. ENGLAND, N.E. - -	30	46	1185	− 13	30	0
	3. ENGLAND, EAST -	26	39	1492	+ 39	38	+ 1
	4. MIDLAND COUNTIES-	26	38	1303	+ 1	33	0
	5. ENGLAND, SOUTH -	24	35	1405*	+ 8	36	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	21	33	1248	− 14	31	− 1
	7. ENGLAND, N.W. - -	24	37	1191	− 69	30	− 2
	8. ENGLAND, S.W. - -	22	33	1430	− 76	36	− 2
	9. IRELAND, NORTH -	14	21	1161	− 15	29	− 1
	10. IRELAND, SOUTH -	14	21	1281	− 67	32	− 2
	— CHANNEL ISLANDS -	27	40	1698	− 84	43	− 2

General Remarks.

Weather has been in an unsettled and rainy condition, except over the midland and southern counties, where slight showers have been of frequent occurrence, but many bright intervals have been experienced. Sleet and snow showers prevailed on the 26th and 27th, especially in the north and west.

Temperature was low during the earlier part of the week, but on the 29th a very rapid rise took place, and for the remainder of the period it was rather high. The average for the week, however, was 1° or 2° below the mean in almost all parts of Great Britain, while in "England E." the deficit was as much as 4°; in Ireland it was a little above the normal. The lowest of the minima were recorded on the 28th, when the sheltered thermometer fell to 20° in the "Midland Counties," and to between 21° and 26° in most other parts of England and the west and north of Scotland. In Ireland the lowest reading was 31° and in the "Channel Islands" 37°. The highest of the maxima, which were registered generally either on the 30th or 31st, ranged from 63° in "England S.W." and "Ireland S." to 57° in "England E." and "England N.W."

Rainfall has been less than the mean in the "Midland Counties" and "England S.," and equal to it in the "Channel Islands;" in all other districts an excess is shown, that in Scotland and the north of Ireland being very considerable. At Glencarron, during the 28th October, as much as 3·75 ins. was collected in the gauge.

Bright Sunshine has been fairly prevalent over England, but deficient in Ireland and Scotland. The percentage of the possible duration ranged from 17 in "Scotland N." and 21 in Ireland to 39 in "England E.," 40 in the "Channel Islands," and 46 in "England N.E."

Barometer and Wind.—At the commencement of the period some disturbances (secondary to a large depression over Scandinavia) were moving south-eastwards over our Islands and causing very strong Northerly gales over the north-west of Ireland, and fresh to moderate gales, or strong squally Northerly winds elsewhere. As these systems passed off an anticyclone moved south-eastwards from the Atlantic to our western and southern districts, accompanied by light winds from the Northward and North-Westward. On the 29th a large and deep depression, travelling eastwards, skirted our extreme northern coasts, causing Westerly gales at many of our northern stations and fresh or strong Westerly winds further south. Towards the end of the period another large, but shallow, disturbance passed eastwards over the northern parts of the Kingdom and spread out to the southward; the accompanying winds were light from the Westward and North-Westward.

* These values have been altered owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 259 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℒ	51	30	46·4	35·9	41·0	—3·2	23	12	7	1·40	+0·41	*	*
	Stornoway ℒ	54	30	48·3	36·0	42·0	—1·9	18	17	7	3·50	+2·40	13·5	21
	Wick ℒ	54	30	48·6	33·4	40·8	—2·9	18	33	7	1·69	+1·02	*	*
	Lairg ℒ	53	25	46·1	34·0	39·9	—2·7	11	30	7	1·87	+0·95	*	*
	Glencarron ℒ	53	28	46·6	35·5	40·9	—1·7	13	25	7	6·36†	+4·28		?
	Fort Augustus ℒ	58	28	49·1	35·3	42·0	—2·2	20	19	6	1·78†	+0·84	8·6	13
	Fort William ℒ	55	33	48·8	40·5	44·5	—0·4	24	4	7	3·09†	+1·27	10·3	16
1. SCOTLAND, E.	Nairn ℒ	58	29	49·6	34·7	41·9	—1·8	21	29	7	1·16	+0·63	*	*
	Aberdeen ℒ	59	32	49·3	36·0	42·5	—1·4	29	17	6	2·02	+1·34	18·7	29
	Braemar ℒ	55	28	44·8	?34·8	?39·7	?—0·4	?8	?26	5	1·74	+0·85	8·3‡	13‡
	Ochtertyre ℒ	60	27	50·9	34·7	42·6	—0·7	35	20	6	1·53	+0·53	*	*
	Leith ℒ	57	30	51·6	35·7	43·4	—0·5	36	18	4	1·58	+1·12	14·6‡	23‡
	Marchmont ℒ	55	28	49·3	33·9	41·4	+0·3	20	32	6	1·42	+0·64	21·5	34
2. ENGLAND, N.E.	Alnwick Castle	57	31	50·7	37·9	44·1	0·0	32	11	4	0·61	—0·08	*	*
	Durham	59	28	49·6	36·4	42·8	—1·3	29	16	5	0·84	+0·16	32·1	50
	Shields	58	27	51·0	33·9	42·2	—3·0	35	23	5	1·18	+0·60	*	*
	Scarborough ℳ	55	31	48·1	37·9	42·9	—1·9	24	11	6	1·30	+0·59	30·2‡	46‡
	York	56	26	50·4	34·6	42·3	—3·4	33	21	5	0·88	+0·35	27·1	41
	Spurn Head	54	35	50·1	40·3	45·1	—0·8	29	5	5	0·91	?	*	*
3. ENGLAND, E.	Hillington ℳ	55	28	50·0	36·2	42·9	—3·2	31	16	5	0·88	+0·27	25·9	39
	Yarmouth	53	30	47·6	38·9	43·1	—3·8	21	9	6	1·55	+0·85	*	*
	Geldeston	57	27	50·0	34·7	42·1	—5·0	31	20	6	0·76	+0·14	24·5	37
	Cambridge	57	28	51·6	37·3	44·2	—2·4	35	13	4	0·44	—0·05	27·5	41
	Rothamsted	57	22	50·5	?33·3	?41·7	?—4·1	24	?35	5	0·52	—0·16	*	*
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	59	24	52·0	36·7	44·1	—1·9	37	15	4	0·64	+0·04	25·8‡	39‡
	Loughborough	60	20	52·4	35·1	43·5	—1·6	39	19	5	0·41	—0·22	27·2‡	41‡
	Cheadle ℳ	54	29	48·7	36·8	42·6	—2·0	26	15	6	0·58	—0·22	*	*
	Churchstoke ℳ	57	29	50·4	37·6	43·3	—1·0	31	12	7	0·64	—0·18	19·4	29
	Hereford ℳ	58	30	52·0	38·2	44·9	—0·9	36	11	5	0·13	—0·50	*	*
	Cirencester	57	29	51·3	38·0	44·5	—1·4	34	11	4	0·32	—0·39	26·3	39
	Oxford	61	23	52·0	36·9	44·2	—1·9	37	14	4	0·25	—0·35	28·0	42
5. ENGLAND, S.	London	59	24	52·0	37·0	44·3	—2·7	37	14	6	0·22	—0·38	21·2‡	31‡
	Strathfield Turgiss ℳ	59	22	52·6	35·4	43·8	—3·0	40	18	6	0·48	—0·13	*	*
	Dungeness	57	23	52·3	38·4	45·1	—2·8	37	10	4	0·24	—0·54	22·7‡	33‡
	Hastings (St. Leonards)	60	30	52·6	40·2	46·2	—2·1	37	5	5	0·41	—0·40	27·4	40
	Southampton	60	28	54·3	39·9	46·9	—1·4	43	6	6	0·35	—0·36	27·8	41
	Hurst Castle	58	32	53·4	41·1	47·1	—1·6	39	3	5	0·31	—0·40	*	*
	Stowell ℳ	57	30	51·7	40·4	45·9	—1·2	34	4	7	0·74	?	19·6‡	29‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	59	31	52·5	38·5	45·3	—0·1	38	10	7	3·37†	+1·47	*	*
	Glasgow	55	29	48·6	37·5	42·9	—0·1	25	13	5	1·48	+0·58	17·1	27
	Ardrossan	56	29	51·7	37·1	44·2	—0·5	36	14	5	1·49	+0·54	*	*
	Glenlee ℒ	55	23	50·0	36·7	43·2	—0·5	31	15	5	2·96†	+1·61	*	*
	Douglas (Isle of Man)	57	28	51·5	41·6	46·4	+0·5	32	1	6	1·82	+0·82	24·9	38
7. ENGLAND, N.W.	Newton Reigny	55	21	49·1	35·0	41·8	—2·0	20	28	6	1·08	+0·28	21·9	34
	Stonyhurst	54	24	49·6	37·1	43·2	—2·1	29	14	5	2·05	+0·35	26·3	40
	Blackpool ℳ	55	28	50·6	39·4	44·8	—2·2	31	7	6	1·33	+0·41	19·2	29
	Manchester	57	24	49·4	36·9	43·0	—2·8	28	14	6	1·21	+0·31	*	*
	Liverpool Obsy. (Bidston)	57	34	51·9	40·9	46·2	—0·7	34	3	6	0·74	—0·04	*	*
	Llandudno ℳ													
	Holyhead	57	38	53·3	44·0	48·5	—0·4	46	0	7	1·49	+0·52	*	*
8. ENGLAND, S.W.	Llandovery	63	28	53·7	37·4	45·3	—2·2	42	13	7	1·71	+0·48	*	*
	Pembroke	57	37	53·1	45·6	49·2	—0·6	50	0	7	0·99	+0·06	17·5	26
	Arlington (N. Devon)	56	32	51·3	41·1	46·1	—0·7	32	3	7	2·31	+0·94	*	*
	Cullompton ℳ	62	32	54·0	41·6	47·6	+0·1	41	1	7	0·98	+0·11	22·6	33
	Falmouth	57	38	53·1	45·3	49·1	—0·8	50	0	7	1·39	+0·12	27·6	41
	Plymouth	62	35	54·5	43·0	48·6	—0·8	46	0	6	0·86	+0·01	21·1	31
	Prawle Point	59	35	53·9	42·9	48·2	—1·7	43	0	7	0·81	?	*	*
9. IRELAND, N.	Malin Head	54	36	50·7	41·7	46·1	+0·2	30	1	6	1·40	?	*	*
	Londonderry	57	34	51·8	40·7	46·1	+0·9	34	4	7	2·01	+1·02	*	*
	Mullaghmore	59	38	53·6	43·3	48·3	+2·8	44	0	7	1·78	+0·76	*	*
	Belmullet	56	34	52·7	44·4	48·4	0·0	45	0	7	1·96	?	*	*
	Markree Castle	57	35	52·2	42·8	47·4	+2·6	38	0	7	1·99	+1·14	9·9	15
	Brookeborough	56	31	51·1	37·9	44·3	+0·2	33	11	6	1·74	?	*	*
	Armagh	59	32	52·1	39·1	45·4	+0·4	36	8	6	1·27	+0·61	17·9	27
	Donaghadee	58	33	54·7	38·0	46·1	—1·6	46	11	6	1·23	+0·48	*	*
	Edgeworthstown	57	33	51·9	41·6	46·5	+1·7	33	1	7	1·21	+0·46	*	*
10. IRELAND, S.	Dublin	58	34	52·5	42·4	47·3	+0·8	37	0	5	0·52	—0·13	22·0	33
	Parsonstown	57	34	53·3	41·3	47·1	+1·8	39	2	6	1·17	+0·47	12·9	19
	Kilkenny	58	33	52·9	42·1	47·3	+1·6	37	0	7	0·97	+0·31	*	*
	Waterford	63	35	54·5	41·8	48·0§	—0·3§	43§	1	4	0·73	—0·20	*	*
	Roche's Point	58	39	54·7	45·0	49·7	+0·5	54	0	4	0·48	—0·48	*	*
	Valencia	58	41	54·9	46·9	50·8	+0·9	62	0	7	2·06	+0·72	6·9	10
	Killarney	58	33	54·7	44·5	49·5	+1·3	53	0	7	1·86	?	*	*
	Foynes	57	38	53·9	45·9	49·8	+3·6	55	0	7	1·25	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	41	53·9	47·0	50·4	—1·6	59	0	6	0·40	—0·47	*	*
	Jersey	60	37	55·4	46·1	50·8	—0·3	60	0	7	1·53	+0·54	27·4	40

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℒ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

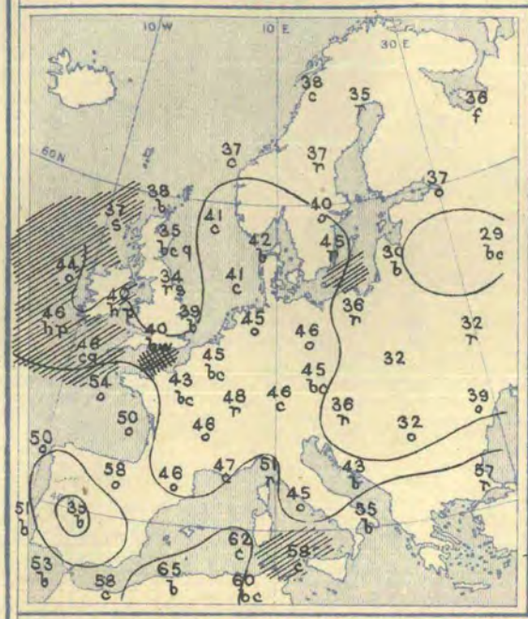
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

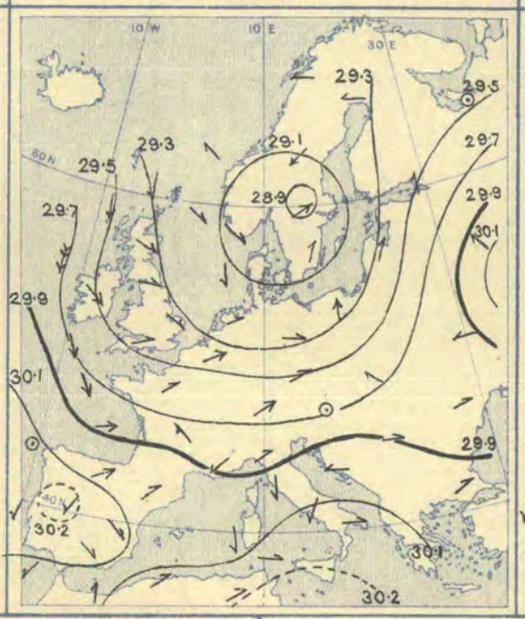
§ The corresponding values in last week's report should read "52·4," "+2·7," "73."

Sunday, 26th October.

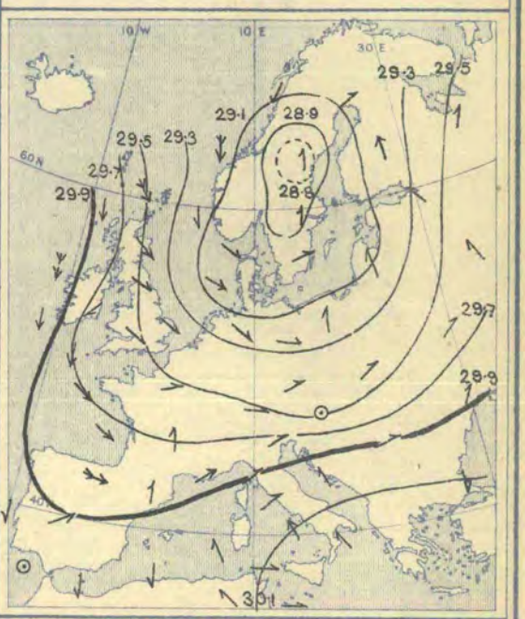
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather squally and showery in nearly all parts of the United Kingdom, with hail on our western coasts and snow in the north of Scotland. Dull and rainy at several of the Scandinavian, Russian, German, and Austrian stations, as well as in the north of Italy, but fine in Denmark, the Netherlands, central France, Spain, Algeria, and the south of Italy. Showers of snow or sleet occurring later over the whole of our Islands, with thunder and lightning at several of the western stations, and also at Berlin.

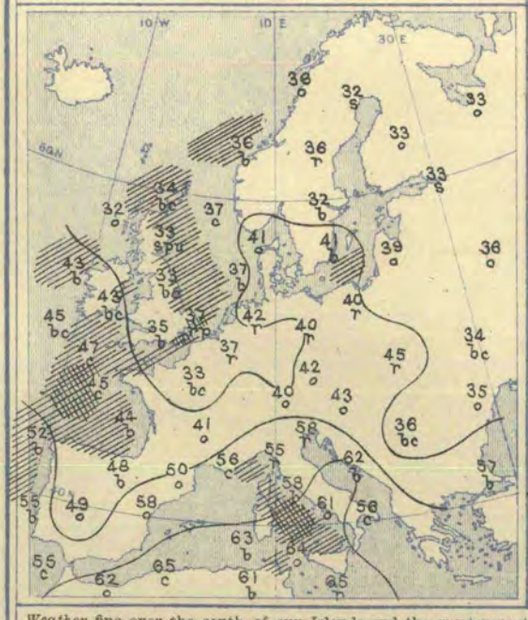
Temperature highest, 65° at Algiers, 62° at Cagliari, and 60° at Barcelona and La Calle; above 55° at most of the Mediterranean stations, and also over the Bay of Biscay. Lowest, (1) 28° at Warsaw, 29° at Moscow, 30° at Riga, and 31° at Buda Pesth; (2) 32° at Nairn, 34° at Shields, and 35° at Aberdeen and Leith; (3) 35° at Madrid. Daily maxima below 50° in nearly all parts of the United Kingdom, and below 45° at several of our northern and eastern stations. Thermometer exceeding 70° over Algeria and the southern parts of Spain and Italy, the highest reading of all being 79° at Algiers.

Wind blowing a moderate to whole gale from the Northward in the extreme north-west of our Islands; moderate to strong from the North-Westward in other parts of the United Kingdom, and also on the eastern shores of the North Sea. Strong from the Westward over France and the Netherlands, from the South-Westward in Germany, and from the Southward over Finland and the Baltic; light from the Eastward in the north of Scandinavia, variable in Italy, Northerly or North-Easterly in Spain and the south of France, Southerly in Algeria. Subsequently increasing to a moderate or fresh gale from North-West or North in nearly all parts of the United Kingdom.

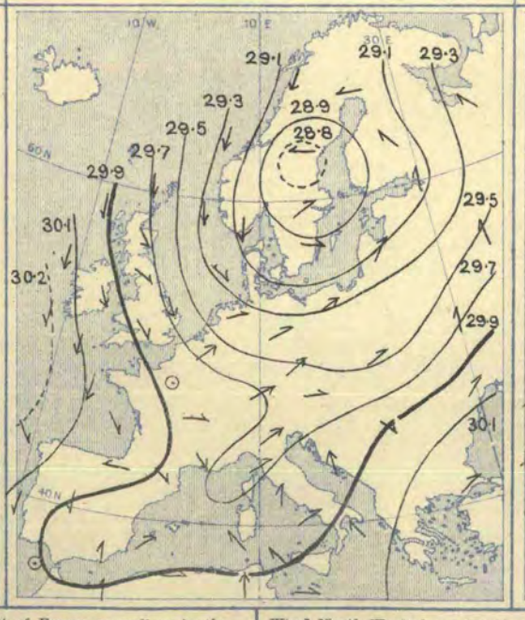
Barometer highest, 30·1 ins. to 30·2 ins. and upwards, in a large anticyclone extending from the southern parts of the Mediterranean over Spain and the south of Italy; 30·1 ins. and upwards in another system lying over central Russia. Lowest, 29·0 ins. and less, in a depression lying over the south of Scandinavia. Secondary disturbances travelling south-eastwards across our Islands during day, but barometer rising rapidly in west and north towards evening. Pressure giving way gradually both over southern and eastern Europe.

Monday, 27th October.

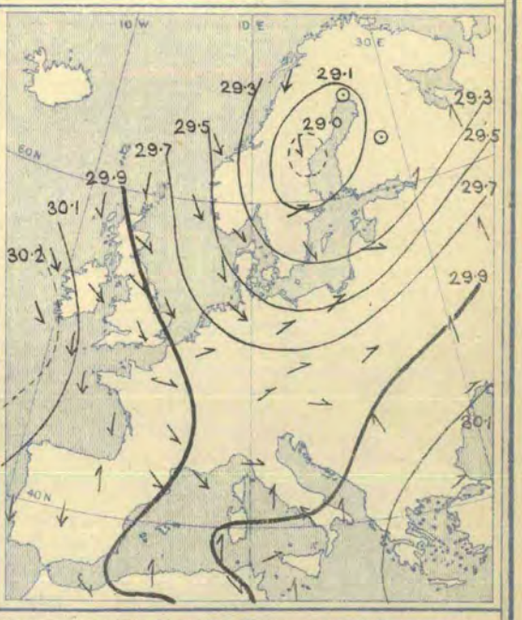
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the south of our Islands and the greater part of France, as well as in the southern parts of Sweden and Russia; cloudy or overcast in nearly all other localities, with snow and hail showers in the north-west, north, and east of our Islands, rain over Germany and the north of Italy. Snow also reported at Haparanda and St. Petersburg. Showers falling during day in all but the central and southern parts of the United Kingdom and snow over northern Russia; lightning seen in evening at Jersey and Biarritz.

Temperature highest, 65° at Malta and Algiers, 64° at Palermo, 63° at Cagliari, and 62° at Lesina, Oran, and Tunis; above 55° at nearly all the Mediterranean stations. Lowest, (1) 32° at Stornoway and Loughborough, and 35° at Aberdeen, Shields, and Oxford; (2) 33° at Paris and 35° at Le Mans; (3) 32° at Haparanda, and 33° at Archangel, Kuopio, and St. Petersburg. Daily maxima below 45° in all the more northern, eastern, and south-eastern parts of the United Kingdom, and as low as 37° at Yarmouth. Severe frost over England at night; sheltered thermometer falling as low as 20° at Loughborough, 23° at Dungeness and Oxford, and 24° in London.

Wind North-Westerly or Northerly over the whole of western Europe, strong in force over the North Sea and the more exposed parts of the British and Irish coasts. Fresh or strong from the South-Westward in Germany, light from the Southward or South-Eastward in Russia; Easterly in the north of Sweden. Moderate from the South-Westward in Italy and from the Southward in Algeria. Wind moderating somewhat on our coasts later, and backing slightly in the extreme north-west.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the south-westward of our Islands, and also in another system over Asia Minor. Lowest, 28·8 ins. and less, in a well-marked depression lying over central Sweden; small secondary disturbances passing across various parts of north-western and central Europe and gradients steep in places. Depression subsequently moving north-eastwards and growing shallower; anticyclone to the south-westward of our Islands spreading slightly eastwards.

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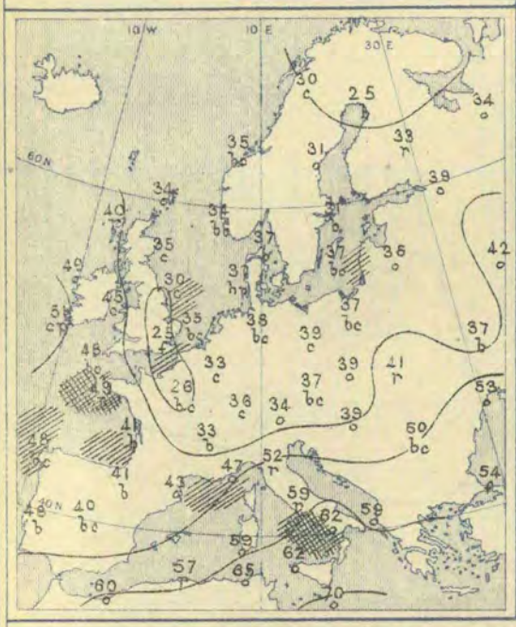
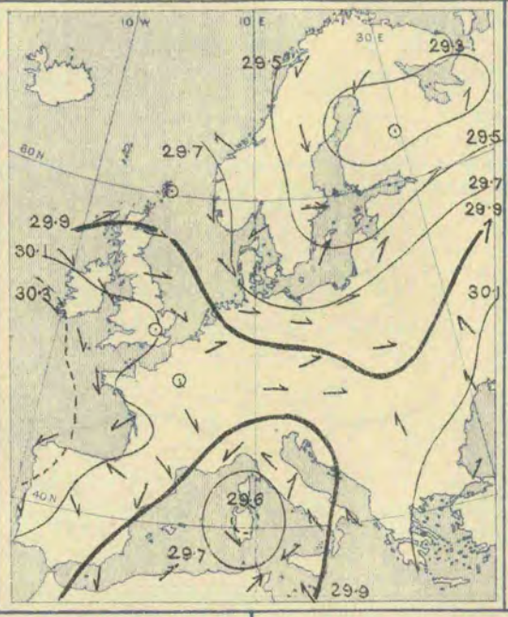
Tuesday, 28th October.

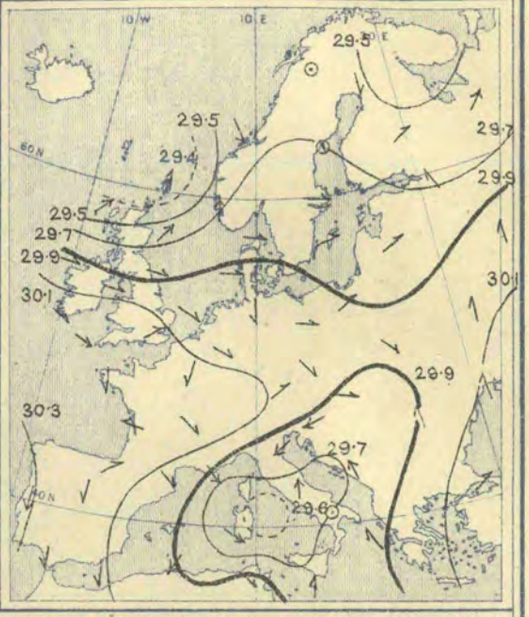
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the greater part of England, France, and Spain, as well as in Scandinavia, but foggy in London. Cloudy or overcast in nearly all other countries, with rain in the extreme west and north-west of our Islands, and also in some parts of Russia, Germany, Italy, and Algeria; snow showers reported at Nairn. Rain falling later over nearly all parts of the United Kingdom, northern and central Europe, and in the north of Italy—heavily in the north of Scotland and in Austria. Large quantities at the Algerian stations only.

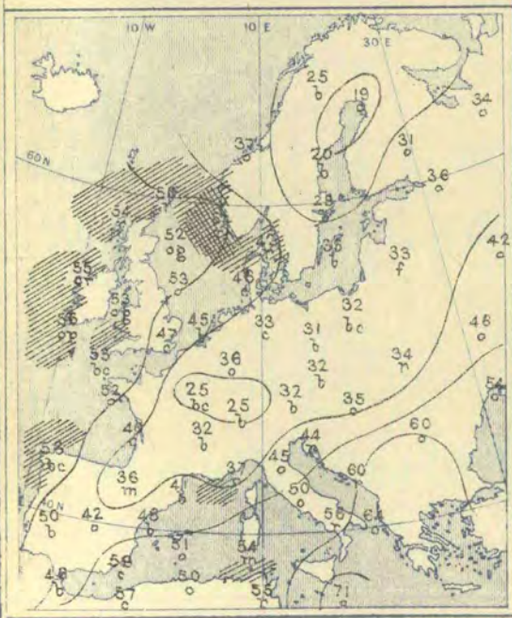
Temperature highest, 70° at Malta, 65° at La Calle, 64° at Tunis, and 62° at Palermo and Sfax; above 55° at nearly all the Mediterranean stations. Lowest, 21° at Loughborough, 24° at Oxford, 25° at Haparanda and in London, 26° at Paris, and 27° at York; below 32° over the inland parts of England and France generally, and also in Sweden. Considerable rise taking place over England later, but weather remaining very cold over central France.

Wind light to moderate from South-West or West over the northern parts of our Islands, as well as over Germany and the Baltic; North-Westerly or Northerly over the southern parts of the United Kingdom, and also in Scandinavia, Denmark, the Netherlands, France, and Spain. Light or moderate from the Southward or South-Eastward in Italy and from the Southward in Algeria. Subsequently increasing to a moderate gale from South-West and West over the northern and north-western parts of our Islands, and backing to the Westward in the south; remaining Northerly over France.

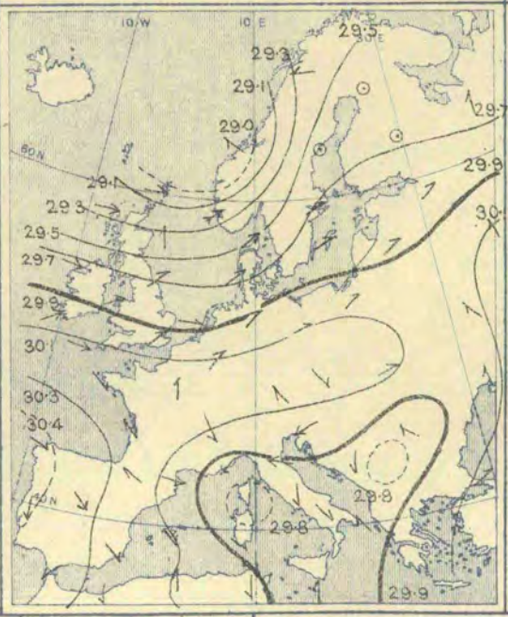
Barometer highest, 30·2 ins. and upwards, in an anticyclone extending from the Atlantic over the south-west of Ireland and the north-west of Spain, as well as in another system lying over the Black Sea. Lowest, 29·3 ins. and less, in an elongated depression lying over Lapland and the White Sea; 29·6 ins. and less in another disturbance over Sardinia. New depression of considerable size and depth advancing to the north of Scotland later, and barometer falling quickly in the north of our Islands.

Wednesday, 29th October.

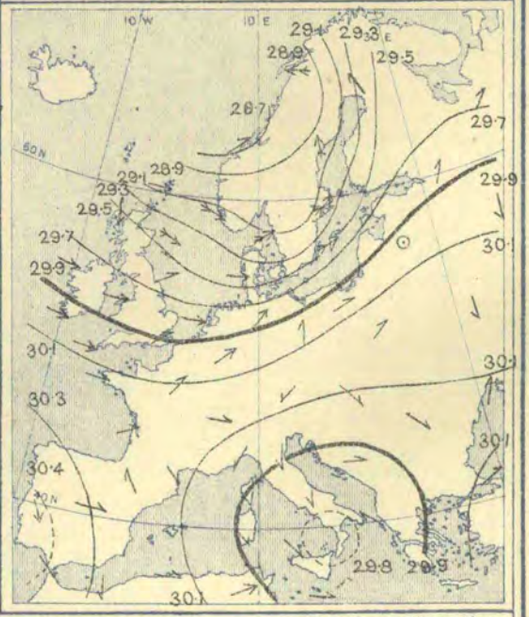
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning clear and bright on the Swedish coast and in many parts of central, southern, and south-western Europe; cloudy or overcast elsewhere, with fog or rain at several of the northern and north-western stations; unsettled over the British Islands and North Sea. Rain at times during day over north-western, northern, central, and some parts of southern Europe, and amounts registered somewhat large in several localities, but not over the United Kingdom.

Temperature risen rapidly over the United Kingdom and North Sea—as much as 20° to 28° over our midland and north-eastern counties—fallen decidedly in the south of France and over central Europe. Morning readings exceeding 60° over some parts of south-eastern Europe, and exceeding 50° over the British Islands generally and on the Spanish coasts; much lower elsewhere. Lowest, (1) 19° at Haparanda, 20° at Hernösand, 25° at Bodö and 28° at Stockholm; (2) 25° at Paris and Belfort, 26° at Limoges, 30° at Le Mans and Wiesbaden, and 31° to 34° at the German stations as a whole. Rising to between 53° and 59° over the British Isles later.

Wind South-Westerly to Westerly over the British Isles—moderate to fresh over the southern districts, strong to a gale in the north-west; South-Westerly to Southerly on the eastern shores of the North Sea, and strong to a gale in many places; very light and variable over central parts of France, Germany, and Russia; Northerly to North-Easterly over southern Europe—strong to a moderate gale in places. Strong North-Westerly gale in east of Scotland later, strong Westerly breezes on our north-west coasts, strong Southerly gales over Denmark, Sweden, and the Baltic, and an Easterly gale in Lapland.

Barometer highest, 30·4 ins. to 30·2 ins. and more, over Spain and the western and central parts of France, and 30·2 ins. (and more) to 30·1 ins. over the southern half of Russia; exceeding 30·1 ins. in a "col" over Germany. Lowest, 29·0 ins. and less, in a depression off the west of Norway, and about 29·8 ins. in a depression over Corsica, and in another over Servia and Dalmatia. Gradients (for Southerly to Westerly winds) steep over north-western Europe. Northern depression moving eastwards later and barometer rising over the United Kingdom—especially in the north and north-west—falling fast over northern Europe.

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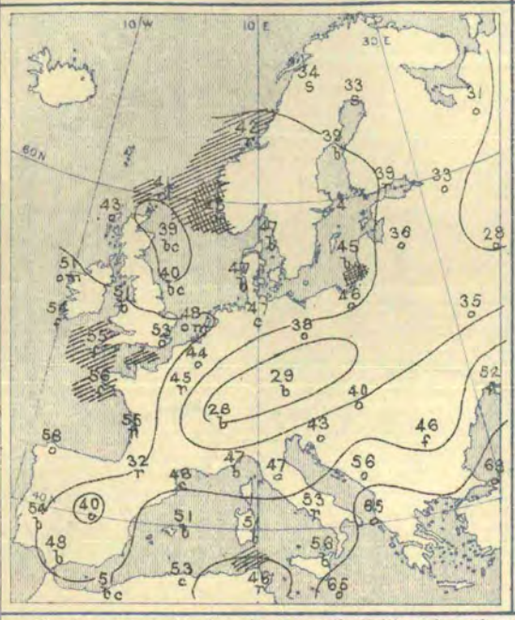
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 30th October.

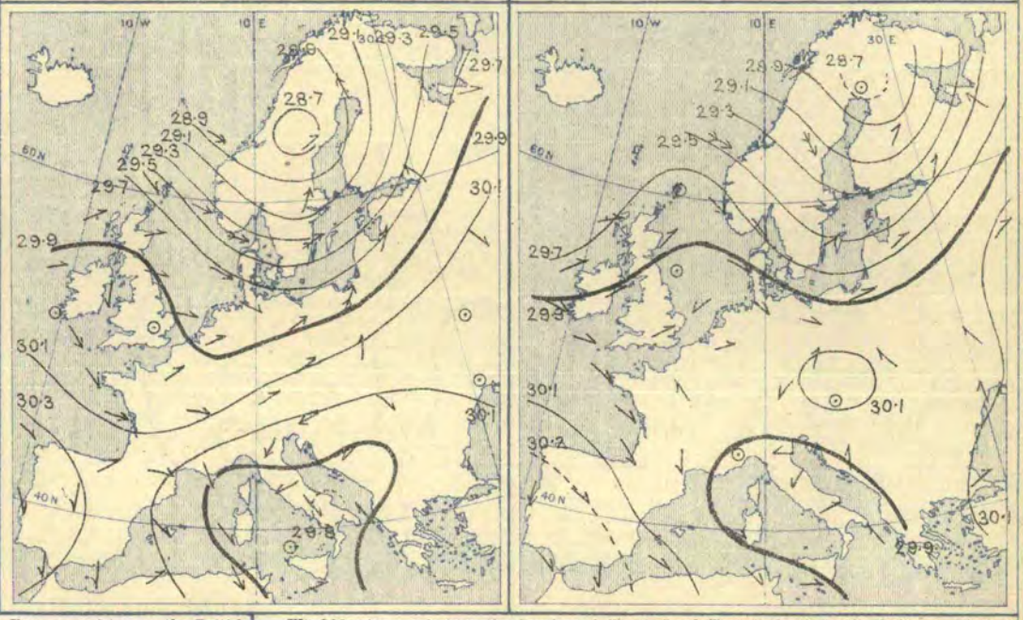
Temperature and Weather. 8 a.m.



Weather very rough and unsettled over the Baltic and northern Europe; quiet over the British Islands, as well as over France, Germany, southern and central Russia; somewhat disturbed over the Mediterranean, damp fog and mist in many parts of our Islands, clear bright weather in others, and also over central Europe and Portugal—rain at some of the Channel and northern French stations. Rain later over all but the south-eastern parts of our Islands, amounts considerable in Scotland and Norway, fog in many places, thick during the evening in London.

Temperature changing very irregularly and fitfully; inclined to fall again over the northern and eastern parts of the British Isles, risen rapidly in some parts of France and north Germany. Morning readings exceeding 50° on the Atlantic and Channel coasts of the British Isles, France, Spain, and Portugal, and exceeding 60° at Brindisi and Malta; below 40° over Lapland, Russia, Poland, and south Germany, and as low as 28° at Moscow and Breslau, 29° at Vienna and Munich, 30° at Warsaw, and 31° at Archangel. Rising later to between 55° and 61° over our Islands—air damp and close; exceeding 60° over the greater part of southern Europe, and reaching 65° at Nemours.

Barometer and Wind. 8 a.m. and 6 p.m.

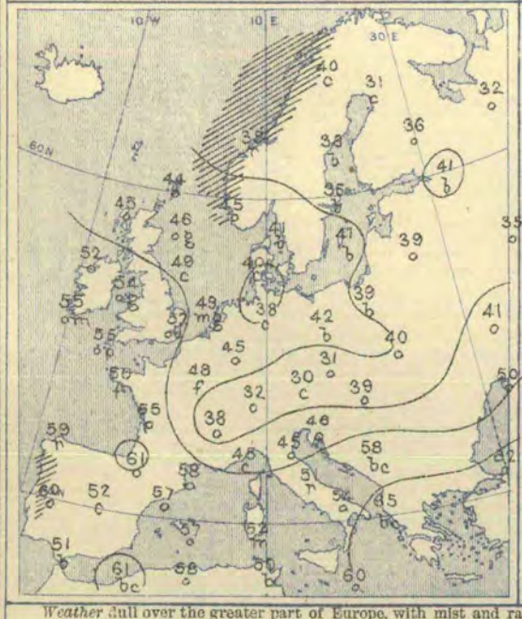


Wind blowing a gale from the Southward (South-South-East to South-South-West) over Finland and the Baltic, a strong breeze to a fresh gale from West on the eastern shores of the North Sea, and a light to moderate and variable breeze over the United Kingdom, France, and central Europe; North-Easterly to Northerly winds prevalent over the Mediterranean, South-Easterly and Easterly over the Adriatic. Gale veering to North-West on the eastern shores of the North Sea later, and wind backing to South-Westward very generally over Ireland and Scotland.

Barometer highest, 30·4 ins. to 30·1 ins., over the Iberian Peninsula and south-west of France, and exceeding 30·2 ins. over central Russia; exceeding 30·1 ins. in a well-marked band (or "col") extending from the south-west of France across that country and south Germany to Austria and Russia. Lowest, 28·8 ins. and less, in a deep depression lying over the northern part of Scandinavia (gradients very steep over the Baltic and south of Scandinavia), and between 29·3 ins. and 29·9 ins. over Italy, Sardinia, Sicily, Malta, and the adjacent parts of the Mediterranean and Adriatic. Northern depression subsequently moving north-eastwards to Lapland, but new one appearing off our north-western coasts.

Friday, 31st October.

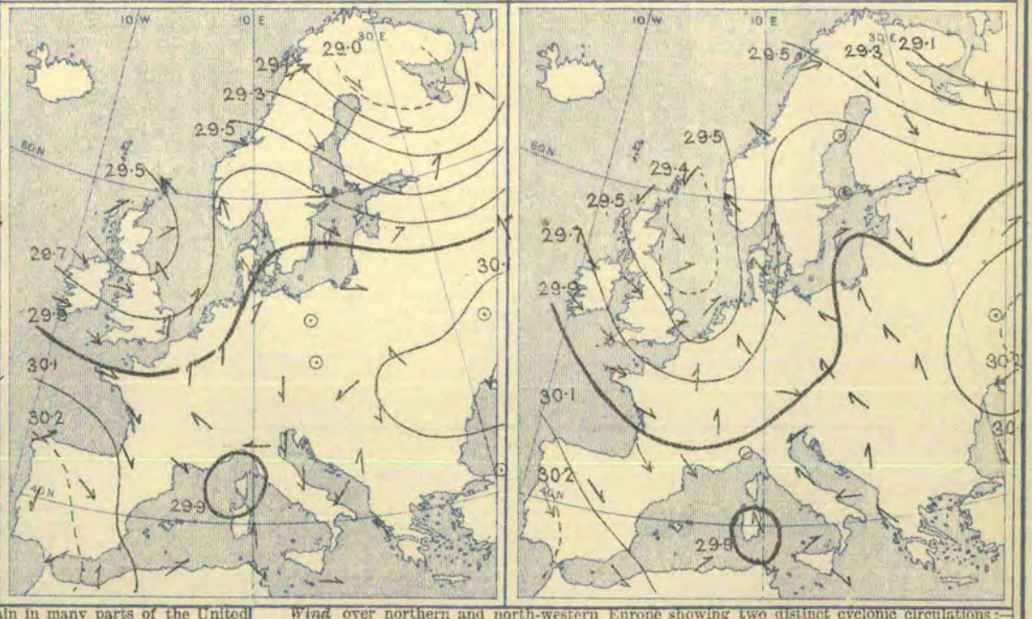
Temperature and Weather. 8 a.m.



Weather dull over the greater part of Europe, with mist and rain in many parts of the United Kingdom, and fog on the French side of the Channel, as well as at the Helder and Copenhagen. Fair or fine in Sweden and Denmark, as well as in Algeria and the southern parts of Spain and Italy. Rain falling later in France and north of Italy, heavy in the south of France, but some improvement taking place in the west of our Islands. Slight rain in some parts of Austria and Russia also.

Temperature highest, 65° at Brindisi, 62° at Constantinople, 61° at Biarritz and Oran, and 60° at Lisbon and Malta; 55° or a little more in the south-west of our Islands, the west of France, and on the Spanish coasts. Lowest, (1) 31° at Haparanda, 32° at Archangel, and 33° at Ulcaborg; (2) 30° at Munich, 31° at Prague, and 32° at Belfort. Below 40° in most parts of Scandinavia, Russia, and central Europe. Rising during day to 55° or more in nearly all parts of Ireland, England, and France, and to 70° or more in several parts of Italy and Algeria.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind over northern and north-western Europe showing two distinct cyclonic circulations:—(1) moderate to strong from the Westward in the west and south-west of our Islands, Southerly in the east and south-east of England, South-Easterly on the eastern shores of the North Sea, variable in Scotland; (2) fresh or strong from North-West or West over Sweden and Finland, light from South-West over the Baltic Provinces, Southerly or South-Easterly over central and northern Russia. Variable over central and eastern Europe, North-Westerly over Spain and the Bay of Biscay, Southerly in Algeria. Subsequently veering to the North-Westward in most parts of our Islands and blowing strongly on our south-west coasts.

Barometer highest, 30·2 ins. to 30·0 ins., over the Iberian Peninsula; 30·1 ins. to 30·0 ins. in another system lying over the south of Russia and south-eastern Europe. Lowest, 28·9 ins. and less, in a rather deep depression lying over Lapland; 29·5 ins. and less in another disturbance lying over the northern parts of our Islands. Shallow disturbances over the Mediterranean also. Northern system subsequently moving slowly eastwards and spreading in a south-easterly direction over the North Sea.

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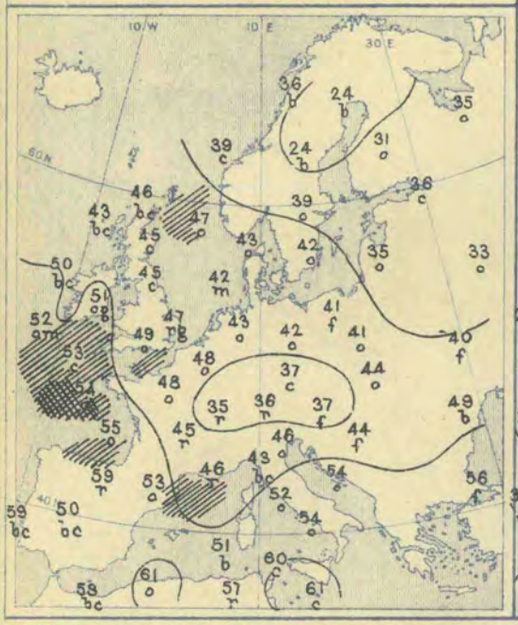
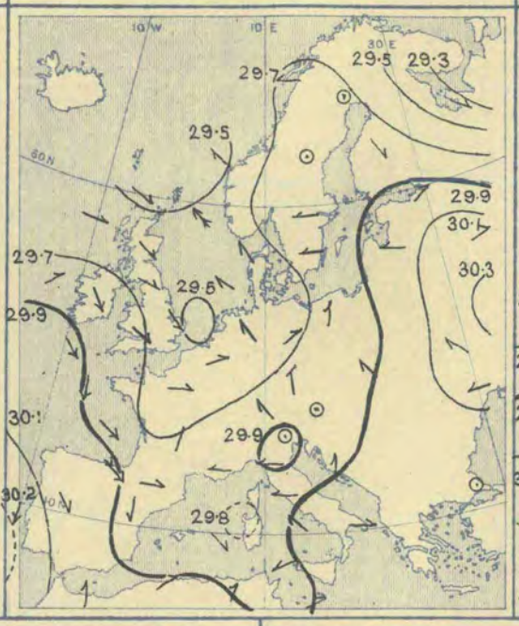
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 1st November.

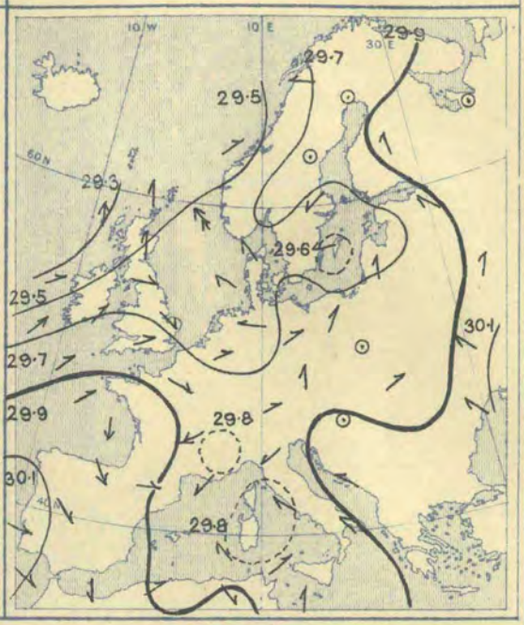
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in a changeable condition over the United Kingdom and Europe generally. Fine and bright in morning at many of our own stations, as well as over Lapland, the northern parts of Sweden, Spain, and southern Russia; very foggy over south-eastern Europe, cloudy or overcast elsewhere, with rain over the western Baltic, the southern half of France, and at several of the Mediterranean stations. Rain later over the British Islands and France—heaviest in Scotland and Ireland and a great deal at several of the Mediterranean stations; smaller quantities locally except over the Iberian Peninsula and Austria. Lightning in the west of Scotland.

Temperature changing very fitfully, except over the most southern countries. Morning readings exceeding 60° at Brindisi and Malta only, but exceeding 50° over the western parts of the British Islands, France, and the Iberian Peninsula, the southern half of Italy, and at some of the Black Sea stations. Lower elsewhere, and as low as (1) 24° at Haparanda and Hernösand, 31° at Kuopio, 32° at Helsingfors, 33° at Moscow, 35° at Riga, 39° at Christiansund; (2) 35° at Belfort, 36° at Munich, and 37° at Prague and Vienna. Rising to between 50° and 60° over our Islands and France during day, and to 70° over the southern parts of Italy and in Algeria.

Wind moderate to fresh from the North-Westward over the British Islands, Spain, and the west of France; light Southerly over north Germany, South-Easterly over the Baltic and Scandinavia, North-Westerly over the north of Russia, Easterly in the south of France and northern Italy; variable elsewhere. Backing Southwards on our western coasts later and increasing to a gale; North-Westerly wind over England lulling to a calm.

Barometer highest, 30·2 ins. to 29·9 ins., over the Spanish Peninsula, the Bay of Biscay, and the south-west of our Islands; 30·3 ins. to 30·0 ins. over Russia. Lowest, 29·5 ins. and less, in a depression over the Shetlands and off the west of Norway, as well as in a small depression near the Helder; 29·8 ins. and less in the south of France. New depression approaching our northern coasts later and barometer falling very fast throughout the United Kingdom.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⇛ = a heavy gale; ➔ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of the week a large high-pressure system, which embraced the Mediterranean and a portion of southern Europe, was beginning to give way under the influence of a depression which was spreading southwards from Scandinavia to the more central countries.

A new high-pressure system soon appeared, however, to the westward of our Islands, extended eastward over England, occasioning severe frosts at the central stations, and subsequently travelled southward to the Spanish Peninsula. In the meantime a second anticyclone was gradually formed over Russia, the two systems being united for some little time by a "col" which extended across France and central Europe. During the prevalence of these conditions large depressions were moving in an easterly direction from the Atlantic to Scandinavia; and Westerly breezes were reported in all the more northern countries, their force being considerable at times over Scandinavia and the north of Scotland.

On the 31st, however, a large shallow system advanced directly over Scotland and subsequently spread down in a southerly and south-easterly direction. Further disturbances also appeared over Italy and the south of France, and the "col" therefore gave way. At the close of the week a large and deep depression was beginning to approach the north-west of our Islands, and Southerly gales were setting in on the west coasts of Ireland and Scotland.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
October 25th - - -	Stowell - - - - -	57	33	54·0	41·6	47·6	−1·3	41	1	4	0·46	?	14·0	20

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 45]. *Third Series.* WEEK ENDING SATURDAY, 8TH NOVEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878–85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878–85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 266.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	56	30	47·1	36·1	41·6	1 below.	14	− 4	24	+ 7	2028	+187	487	− 85
	1. SCOTLAND, EAST	53	28	47·2	35·1	41·2	0 (average)	15	− 5	28	+ 8	2380	+ 58	541	− 69
	2. ENGLAND, N.E.	54	28	48·4	37·2	42·9	1 below.	26	+ 4	13	− 2	2663	+151	417	−109
	3. ENGLAND, EAST	57	32	50·5	38·3	44·4	0 (average)	32	+ 6	10	− 5	2952	+ 58	504	− 47
	4. MIDLAND COUNTIES	56	28	50·3	36·7	43·5	0 (average)	33	+ 8	15	− 3	2884	+ 30	515	− 46
	5. ENGLAND, SOUTH	57	32	52·6	39·2	45·9	0 (average)	39	+ 7	8	− 3	3182	+ 39	325	− 78
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	55	29	49·6	37·6	43·7	1 above.	30	+ 6	12	− 3	2558	+ 86	347	− 93
	7. ENGLAND, N.W.	54	29	49·9	39·7	45·8	0 (average)	36	+10	6	− 5	2769	+133	317	− 96
	8. ENGLAND, S.W.	58	31	53·0	42·3	47·7	1 above.	40	0	0	− 5	3011	− 20	245	+ 1
	9. IRELAND, NORTH	56	31	50·7	39·4	45·1	1 above.	33	+ 5	7	− 5	2678	+116	304	− 80
	10. IRELAND, SOUTH	60	34	53·3	42·2	47·8	1 above.	41	+ 5	0	− 9	3041	+127	224	− 40
	— CHANNEL ISLANDS	58	46	55·2	48·0	51·6	2 above.	67	+14	0	0	3404	+ 73	71	− 22

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 266.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	7	20	12 more	229	+33	49·6	+ 3·8	11	19	987	−183	24	− 5
	1. SCOTLAND, EAST	5	18	10 more.	188	+22	28·8	+ 0·9	10	16	1209	−122	30	− 3
	2. ENGLAND, N.E.	6	10	3 more.	160	0	21·7	− 2·3	15	23	1200	− 11	30	0
	3. ENGLAND, EAST	6	9	2 more.	153	− 7	20·4	− 2·1	23	36	1516*	+ 43	38	+ 1
	4. MIDLAND COUNTIES	6	15	8 more.	155	− 5	20·0	− 5·8	18	28	1321	+ 4	33	0
	5. ENGLAND, SOUTH	6	10	3 more.	154	+ 1	23·0	− 1·2	22	34	1427	+ 14	36	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	6	25	13 more.	194	+16	45·8	− 1·0	13	21	1261	− 13	31	0
	7. ENGLAND, N.W.	6	22	13 more.	182	+15	30·8	+ 0·4	12	20	1203	− 69	30	− 2
	8. ENGLAND, S.W.	7	20	10 more.	185	+ 9	32·2	− 5·3	20	31	1450	− 70	36	− 2
	9. IRELAND, NORTH	7	19	11 more.	212	+14	32·1	+ 0·9	16	25	1177	− 14	29	0
	10. IRELAND, SOUTH	7	20	11 more.	196	+12	34·3	+ 0·6	20	32	1301	− 63	32	− 2
	— CHANNEL ISLANDS	7	19	10 more.	178	−12	27·8	− 0·4	12	18	1710	− 89	43	− 2

General Remarks.

Weather has been rough, unsettled, and wet. Severe gales have occurred in most districts. Snow has fallen on the Welsh and Scotch mountains, and heavy rains have been experienced in all the more western and northern parts of the country. Lightning and bright aurora were seen in the north of Scotland on the night of the 7th.

Temperature has not differed much from the normal. In most of the wheat-producing districts it has been slightly in excess of the mean, but in the grazing districts it has been either equal to or a little below the normal. The highest readings were observed, as a rule, on the first day of the period, but in some of the southern districts they were recorded at the close of the week. On one or other of these days the thermometer rose to 55° or above in nearly all districts, the highest readings of all being 60° in "Ireland S." and 58° in "England S.W." and the "Channel Islands." The lowest readings, which were recorded on irregular dates, ranged from 28° in "Scotland E.," "England N.E.," and the "Midland Counties," to 34° in "Ireland S." and 46° in the "Channel Islands."

Rainfall has been more than the mean in all districts, the excess being very considerable in the west and north. In Ireland, the south-west of England, the Channel Islands, and the north of Scotland rain fell every day.

Bright Sunshine has been less prevalent than it was last week, excepting in Ireland, where the values show a decided excess. The percentage of the possible amount has ranged from 16 in "Scotland E.," 18 in the "Channel Islands," and 19 in "Scotland N.," to 34 in "England S." and 36 in "England E."

Barometer and Wind.—Several large depressions have advanced to our north-west coasts from the Atlantic, and in the majority of cases well-defined secondary systems have been developed either over our Islands or the North Sea. The wind has, therefore, blown strongly from points between South-West and North-West. The most serious disturbance of the week was observed on the 6th and 7th, when a depression of increasing intensity passed eastward across Ireland and England, causing strong to whole gales on all coasts—from the Southward and South-Westward in the east and south, but from the North-Westward in the north-west. On reaching the North Sea the disturbance rapidly filled up, but at the close of the week other systems were beginning to appear off our north-west coasts.

* This value has been altered slightly owing to the receipt of further information.

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III.—DATA from which the SUMMARY on page 265 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	51	36	47·3	38·1	42·7	—0·3	21	11	7	0·90	—0·09	*	*
	Stornoway	50	32	46·3	36·3	41·3	—1·5	12	23	6	4·26	+3·16	15·2	26
	Wick	51	33	46·9	37·0	42·0	—0·5	14	14	7	1·76	+1·08	*	*
	Lairg ⚓	51	30	45·3	33·6	39·5	—2·0	9	32	7	1·49	+0·58	*	*
	Glencarron ⚓	54	33	47·3	35·4	41·4	+0·2	15	27	7	2·56†	+0·36	?	?
	Fort Augustus ⚓	53	30	48·3	34·6	41·5	—1·1	18	31	6	1·11†	+0·16	8·4	14
	Fort William ⚓	56	35	48·5	37·4	43·0	—0·4	26	13	6	2·01†	+0·19	10·0	17
1. SCOTLAND, E.	Nairn	53	31	47·9	35·7	41·8	—0·2	17	26	6	0·83	+0·30	*	*
	Aberdeen	52	33	47·3	36·6	42·0	—0·5	15	15	7	2·65	+1·93	12·6	21
	Braemar ⚓	50	28	43·9	32·8	38·4	—0·4	5	34	4	1·91	+1·01	9·5‡	16‡
	Ochtertyre ⚓	53	29	47·9	32·4	40·2	—1·6	17	38	5	2·16	+1·16	*	*
	Leith ⚓	52	36	49·4	38·4	43·9	+1·5	28	10	4	1·72	+1·25	5·1‡	8‡
	Marchmont ⚓	51	31	46·7	34·6	40·7	+0·9	13	30	6	1·23	+0·44	11·5	19
2. ENGLAND, N.E.	Alnwick Castle	51	32	48·1	36·9	42·5	—0·5	25	14	6	1·81	+1·09	*	*
	Durham	53	32	47·6	35·9	41·8	—0·8	16	26	5	0·83	+0·15	11·7	19
	Shields	52	33	48·3	36·1	42·2	—1·8	26	17	5	0·69	+0·09	*	*
	Scarborough ℳ	52	35	48·0	38·9	43·5	+0·3	24	9	7	1·06	+0·34	17·7‡	28‡
	York	54	28	49·4	35·0	42·2	—1·8	31	20	6	1·02	+0·50	14·3	23
	Spurn Head	53	38	49·1	40·6	44·9	+0·3	26	4	6	0·29	?	*	*
3. ENGLAND, E.	Hillington ℳ	55	35	50·0	37·9	44·0	—0·5	31	11	5	0·80	+0·17	21·5	34
	Yarmouth	52	38	48·1	40·0	44·1	—1·0	23	6	7	0·76	+0·04	*	*
	Geldeston	54	32	51·0	37·9	44·5	—0·8	35	11	7	0·68	+0·05	17·8	28
	Cambridge	57	35	52·3	37·6	45·0	+0·3	39	12	5	0·58	+0·10	25·3	40
	Rothamsted	56	34	51·2	38·0	44·6	+0·6	35	11	6	1·42	+0·77	26·0	41
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	53	30	49·3	35·1	42·2	—2·4	30	19	6	1·03	+0·47	16·3‡	26‡
	Loughborough	55	31	51·1	37·0	44·1	+0·6	36	14	6	0·91	+0·35	21·1‡	33‡
	Cheadle ℳ	52	33	47·9	37·2	42·6	—0·4	21	13	6	2·83	+2·08	*	*
	Churchstoke ℳ	56	31	50·7	37·2	44·0	+1·0	34	13	6	2·56	+1·74	12·7	20
	Hereford ℳ	55	33	51·9	37·7	44·8	+0·8	38	12	5	1·21	+0·61	*	*
	Cirencester	54	28	50·0	35·0	42·5	—1·4	33	20	5	1·06	+0·35	20·4	32
	Oxford	56	36	51·0	37·6	44·3	+0·3	35	12	5	0·78	+0·22	19·3	30
5. ENGLAND, S.	London	56	36	52·4	38·1	45·3	+0·3	39	11	6	0·74	+0·21	16·1‡	25‡
	Strathfield Turgiss ℳ	57	32	51·9	35·9	43·9	—0·9	39	17	6	0·83	+0·23	*	*
	Dungeness	55	35	53·0	38·6	45·8	—0·3	41	10	6	0·79	—0·01	23·4‡	36‡
	Hastings (St. Leonards)	54	38	51·8	39·8	45·8	—0·3	36	6	6	0·93	+0·12	27·2	42
	Southampton	57	35	53·9	40·6	47·3	+1·1	43	4	5	1·02	+0·33	20·1	31
	Hurst Castle	56	38	53·4	42·7	48·1	+1·1	43	0	5	1·03	+0·33	*	*
	Stowell ℳ	54	37	51·6	38·9	45·3	+0·1	33	9	6	1·38	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	55	35	49·5	37·0	43·3	—0·6	30	14	7	2·43†	+0·33	*	*
	Glasgow	53	36	48·5	38·2	43·4	+1·9	26	11	5	1·33	+0·45	12·5	20
	Ardrossan	52	37	50·1	40·4	45·3	+2·2	30	4	5	1·16	+0·22	*	*
	Glenlee ⚓	54	29	48·8	34·3	41·6	+0·1	19	32	6	3·52†	+2·15	*	*
	Douglas (Isle of Man)	55	34	51·1	38·2	44·7	+0·7	35	11	7	4·21	+3·18	13·9	22
7. ENGLAND, N.W.	Newton Reigny	51	29	48·5	35·0	41·8	—0·8	18	29	6	2·85	+2·05	12·3	20
	Stonyhurst	52	34	48·0	37·8	42·9	—0·9	24	12	6	2·02	+0·89	12·1	19
	Blackpool ℳ													
	Manchester	53	34	48·9	38·4	43·7	—0·5	27	10	6	1·91	+1·03	*	*
	Liverpool Obsy. (Bidston)	54	39	51·7	41·6	46·7	+1·1	35	1	6	2·34	+1·63	*	*
	Llandudno ℳ													
	Holyhead	54	44	52·4	45·6	49·0	+1·5	49	0	7	1·83	+0·90	*	*
8. ENGLAND, S.W.	Llandovery	54	31	51·4	36·3	43·9	—2·0	37	16	7	3·11	+1·91	*	*
	Pembroke	55	44	53·4	46·7	50·1	+2·1	57	0	7	1·81	+0·89	17·7	28
	Arlington (N. Devon)	55	38	51·4	42·9	47·2	+2·0	36	0	7	2·59	+1·19	*	*
	Cullompton ℳ	58	38	53·0	40·3	46·7	+0·7	40	5	6	1·79	+0·96	20·2	31
	Falmouth	57	43	54·1	45·0	49·6	+1·2	53	0	7	2·13	+0·86	22·1	34
	Plymouth	58	38	54·3	42·9	48·6	+0·8	46	0	7	1·68	+0·82	19·1	29
	Prawle Point	56	39	53·7	42·3	48·0	—0·3	42	0	6	1·11	?	*	*
9. IRELAND, N.	Malin Head	52	39	49·0	41·3	45·2	+0·5	25	2	7	1·41	?	*	*
	Londonderry	55	37	50·1	38·6	44·4	+0·4	31	10	7	2·11	+1·11	*	*
	Mullaghmore	56	40	51·9	43·0	47·5	+3·2	39	0	6	2·14	+1·04	*	*
	Belmullet	54	40	51·3	43·3	47·3	+0·2	37	0	7	2·27	?	*	*
	Markree Castle	55	31	50·7	37·6	44·2	+0·5	34	12	7	2·41	+1·58	17·8	28
	Brookeborough	54	31	49·9	36·1	43·0	0·0	32	17	5	1·51	?	*	*
	Armagh	55	36	51·0	33·0	41·5	+0·7	34	11	7	1·64	+0·99	13·5	21
	Donaghadee	53	34	50·9	39·7	45·3	—0·5	33	6	7	2·12	+1·38	*	*
	Edgeworthstown	55	33	51·1	37·1	44·1	+0·6	35	14	7	1·63	+0·83	*	*
10. IRELAND, S.	Dublin	57	38	52·7	40·8	46·8	+1·6	39	3	7	0·97	+0·37	20·4	32
	Parsonstown												23·9	38
	Kilkenny	56	35	52·0	39·9	46·0	+1·7	37	6	7	1·49	+0·87	*	*
	Waterford	57	35	53·1	40·6	46·9	—0·2	40	4	7	1·64	+0·72	*	*
	Roche's Point	58	43	54·0	45·6	49·8	+2·0	55	0	7	2·20	+1·20	*	*
	Valencia	58	42	55·1	44·7	49·9	+1·2	55	0	7	2·18	+0·88	15·7	25
	Killarney	60	34	54·4	41·8	48·1	+1·0	44	1	6	3·00	?	*	*
	Foynes	57	38	51·6	42·2	46·9	+2·0	34	0	7	2·77	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	46	54·9	48·1	51·5	+0·7	67	0	7	1·62	+0·75	*	*
	Jersey	58	46	55·4	47·9	51·7	+2·4	68	0	7	2·19	+1·20	11·6	18

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

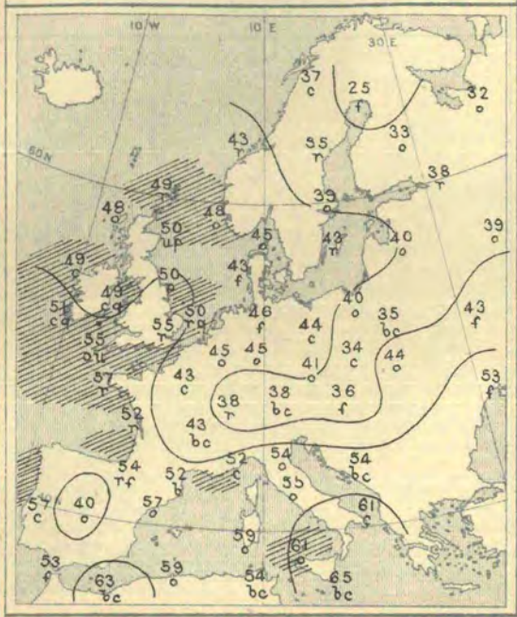
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

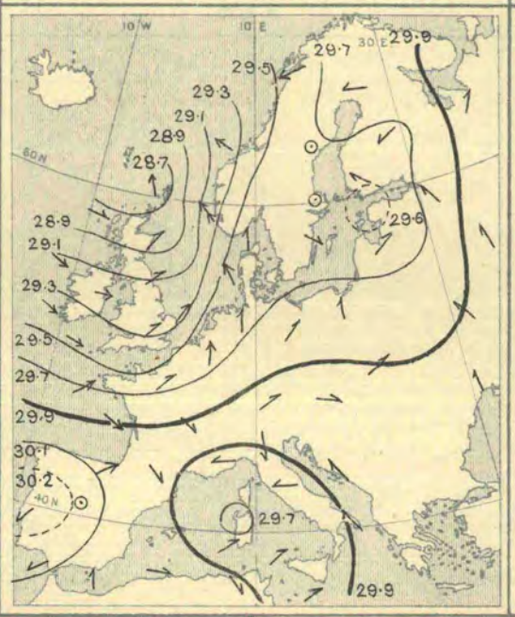
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 2nd November.

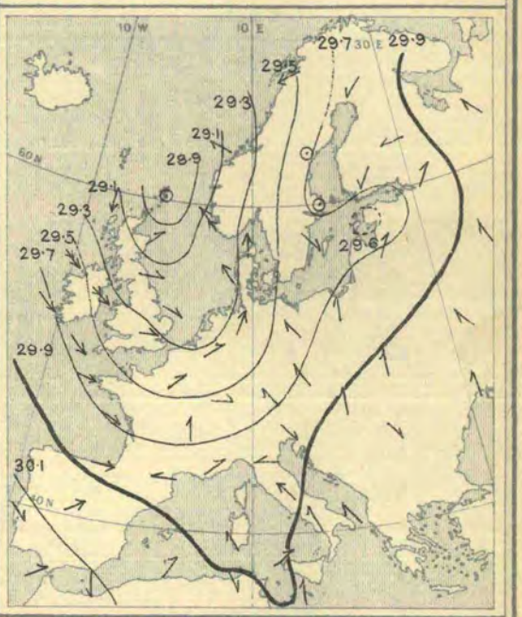
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather showing some (temporary) improvement over a few districts, but rough, wet, and unsettled over the British Islands, the west and north of France, and the North Sea, as well as at St. Petersburg; dull and unsettled over the Mediterranean also, but fine over Spain, and foggy in many parts of south-eastern Europe. Rain falling very generally over western and southern Europe later (heaviest in France, Italy, and the south of Ireland), but sky subsequently clearing in many places. Lightning seen at Prawle Point.

Temperature still changing frequently and considerably. Morning readings exceeding 60° at Brindisi, Palermo, and Malta only, and exceeding 50° on the Spanish and French coasts, the south and south-west of our Islands, and in Italy. Lower generally elsewhere; lowest, (1) 22° at Uleaborg, 32° at Archangel, 33° at Kuopio, 35° at Hernösand, 39° at Stockholm and Moscow; (2) 34° at Cracow, 35° at Warsaw, 36° at Vienna, 38° at Belfort and Munich. Falling decidedly over the British Islands later, and to a smaller extent over France, but thermometer reaching 70° in Algeria and the south of Italy.

Wind strong to a gale from West at our western stations, from South-West in the south, from a more Southerly point on our east coasts, from South at Sumburgh Head, and from South-East in Norway; very variable and light over Russia and central Europe. Cyclonic circulation of moderate breezes over the Mediterranean. Gale veering to North-West and North at our western stations later, and veering to West and moderating in the Channel.

Barometer highest, 30·2 ins. to 30·0 ins., over the Iberian Peninsula, also over southern Russia, and varying between 29·9 ins. and 30·0 ins. in a "col" stretching across the south of France, Switzerland, and northern Italy to south-eastern Europe. Lowest, 28·7 ins. and less. in a depression having its centre off the north of Scotland, and about 29·7 ins. in another over Sardinia. Northern depression moving eastwards to Norway later and filling up partially. Sardinian disturbance also beginning to disperse.

Monday, 3rd November.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.

Weather fine in the eastern and south-eastern parts of Great Britain, as well as in the west of Norway and south of France. Cloudy or overcast elsewhere, with rain in Ireland, Finland, Italy, and Tunis, snow at Haparanda, and a thunderstorm at Hermanstadt. Rain extending over Great Britain later, but weather improving considerably in Ireland. Fog prevailing at many of the Russian stations all day.

Temperature highest, 64° at Malta, 63° at San Fernando and Brindisi, and 62° at Barcelona, Lisbon, and Constantinople; above 55° at nearly all the Spanish and Mediterranean stations, as well as in the extreme south-west of Ireland. Lowest, (1) 3°° at Archangel and Haparanda, 31° at Uleaborg, 34° at Kuopio; (2) 36° at Stornoway and Shields, 37° at Aberdeen, Leith, and Oxford, and 38° as Wick, Nairn, and Donaghadee. Rising during day to between 55° and 58° in many parts of Ireland and England, reaching 60° or more in the south of France, and exceeding 70° in some parts of Algeria and the south of Italy.

Wind moderate to strong from the Southward or South-Westward in the west of our Islands; light to fresh from the Westward or North-Westward over the eastern and south-eastern parts of Great Britain, France, and Spain. South-Westerly over the Netherlands and western Germany, Southerly or South-Easterly over Scandinavia, Denmark, the Baltic, Russia, and Austria. Cyclonic circulation of light breezes reported over Italy, light Southerly breezes in Algeria. Subsequently veering to the Westward in the west of our Islands, but backing to the South-Westward or Southward in the east. North-Westerly breezes setting in over Algeria.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the south-westward of the Iberian Peninsula; 30·0 ins. and upwards over northern Russia. Lowest, 29·3 ins. and less, in a "V"-shaped depression extending from the northward over the eastern parts of the North Sea; 29·4 ins. and less in another disturbance lying off the north-west of our Islands; 29·7 ins. and less in a shallow system lying over Corsica and the north of Italy. Depression off our north-west coasts subsequently moving north-eastwards and barometer rising a little in extreme west; "V"-shaped disturbance also travelling north-eastwards, but dispersing.

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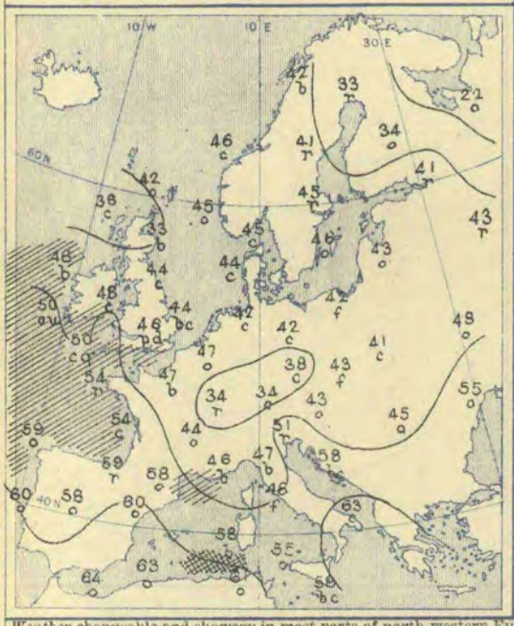
Tuesday, 4th November.

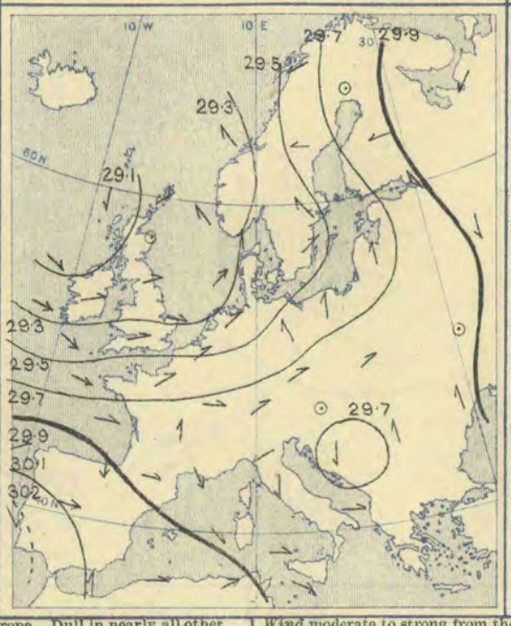
Temperature and Weather. 8 a.m.



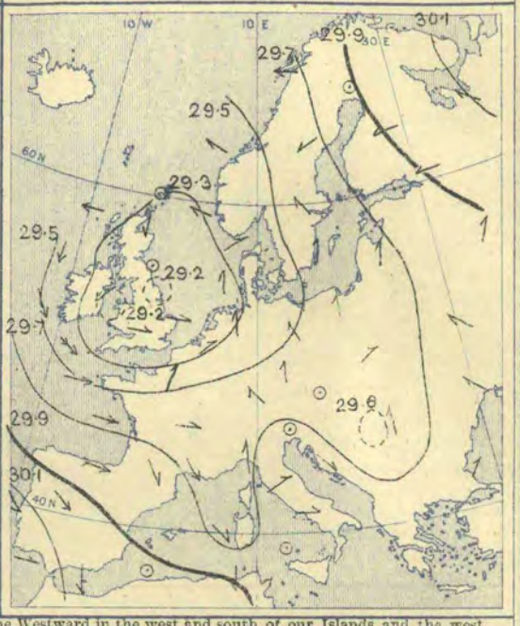
Weather changeable and showery in most parts of north-western Europe. Dull in nearly all other regions, with rain over Sweden and central Russia, but fine over northern Italy and the south of France. Rain falling during day over nearly the whole of western and northern Europe, the largest amounts being 1·0 in. at Hernösand, 0·8 in. at Stornoway, 0·6 in. at Brest, and 0·5 in. at Pembroke. Thunderstorms occurring at several of the French stations.

Temperature highest, 64° at Nemours, 63° at Brindisi and Algiers, 62° at Oran, and 61° at La Calle; above 55° at most of the Spanish and Mediterranean stations, and above 50° over the Channel and Bay of Biscay. Lowest, (1) 22° at Archangel, 33° at Haparanda, and 34° at Uleaborg and Kuopio; (2) 33° at Aberdeen, 37° at Wick, and 38° at Stornoway and Nairn; (3) 34° at Belfort and Munich, and 38° at Prague. Daily maxima below 50° over the northern and eastern parts of the United Kingdom, but thermometer exceeding 55° at some of our extreme southern stations and exceeding 60° in the south of France. Reaching 70° at several of the Spanish and Algerian stations, the highest reading of all being 73° at Oran.

Barometer and Wind. 8 a.m.



6 p.m.

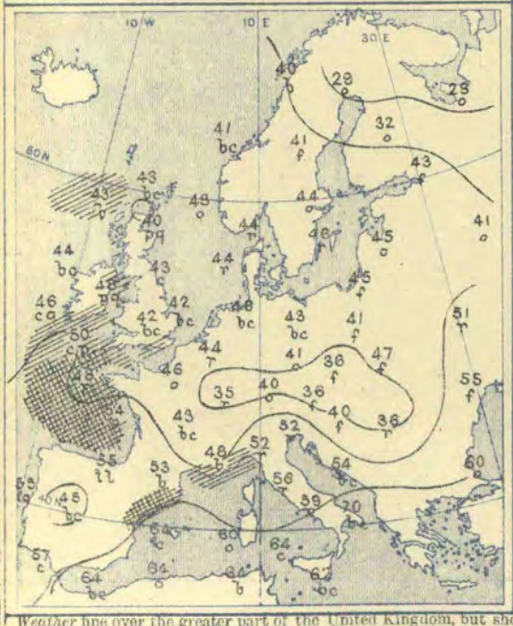


Wind moderate to strong from the Westward in the west and south of our Islands and the west of France; light from the South-Westward in the eastern parts of Great Britain, and also over the Netherlands and east of France. Light from South over Denmark, Germany, and the south of Russia. Easterly over the northern parts of Scandinavia and Russia. Moderate to strong from the Westward or North-Westward at most of the Spanish and Mediterranean stations. Subsequently shifting to the Northward in the west and north of our Islands, and increasing to a fresh gale at the mouth of the Channel; gale from the Westward setting in at Biarritz.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the south-westward of the Iberian Peninsula; 30·0 ins. and upwards over Russia. Lowest, 29·1 ins. and less, in a depression lying over the north-western parts of the United Kingdom; 29·7 ins. and less in a smaller system lying over Bosnia and Servia. Depression in north-west subsequently travelling south-eastwards across our Islands, and barometer rising quickly on our extreme west and north-west coasts.

Wednesday, 5th November.

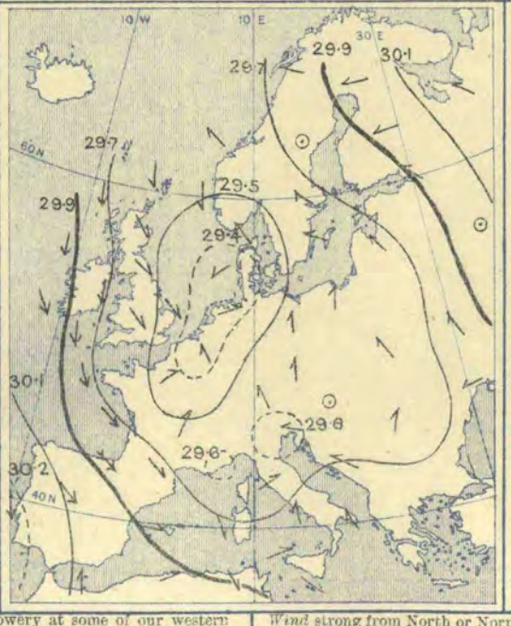
Temperature and Weather. 8 a.m.



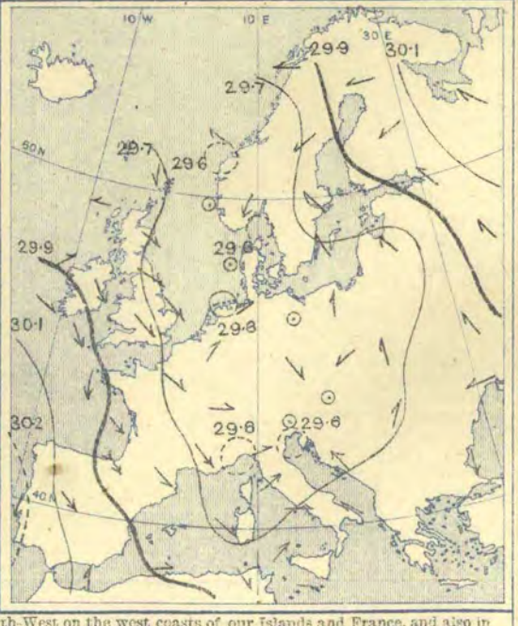
Weather fine over the greater part of the United Kingdom, but showery at some of our western and northern stations; fine also in the west of Norway and the southern parts of France, Spain, and Italy. Dull in all other localities, with a good deal of fog over Russia and Austria, rain in Denmark and the south of Sweden, and a thunderstorm at Biarritz. Showers falling during day in many parts of western Europe; lightning seen at Mullaghmore and Nice at night. Heavy rain reported over Italy, the largest amount being 2·5 ins. at Brindisi.

Temperature highest, 70° at Brindisi, 64° at Palma, Palermo, Oran, Algiers, and La Calle, and 62° at Malta; above 55° at most of the Mediterranean stations. Lowest, (1) 28° at Archangel, 29° at Haparanda and Uleaborg, and 32° at Kuopio; (2) 35° at Belfort, and 36° at Breslau, Cracow, and Vienna; below 40° in some of the northern and eastern parts of Great Britain. Daily maxima below 50° in many parts of our Islands, but thermometer exceeding 60° in the south of France and exceeding 70° in Algeria and the south of Italy. Ground frost occurring over Great Britain at night.

Barometer and Wind. 8 a.m.



6 p.m.



Wind strong from North or North-West on the west coasts of our Islands and France, and also in Spain; light or moderate from the same quarters in the eastern parts of Great Britain. Light from the South-Westward over central France and western Germany; light or moderate from the South-Eastward over Germany and the central and southern parts of Russia; Easterly over Scandinavia, Denmark, and northern Russia. Wind moderating later on our western coasts, and backing to the Westward or South-Westward in the west of Ireland. Becoming very variable over central Europe.

Barometer highest, 30·2 ins. and upwards, in an anticyclone lying to the south-westward of the Iberian Peninsula: 30·1 ins. and upwards in another system lying over Russia. Lowest, 29·4 ins. and less, in a depression lying over Denmark, the Netherlands, and the southern parts of the North Sea: 29·6 ins. and less in three small disturbances lying respectively over Galicia, the north of Italy, and the Riviera. Depression over North Sea subsequently moving eastwards, but new disturbance beginning to approach our western coasts.

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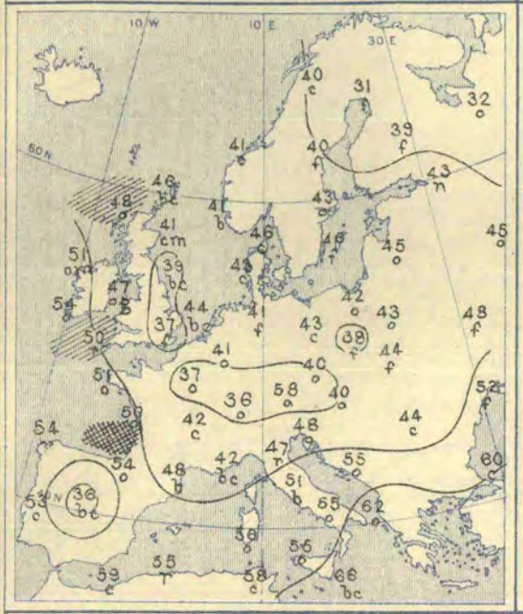
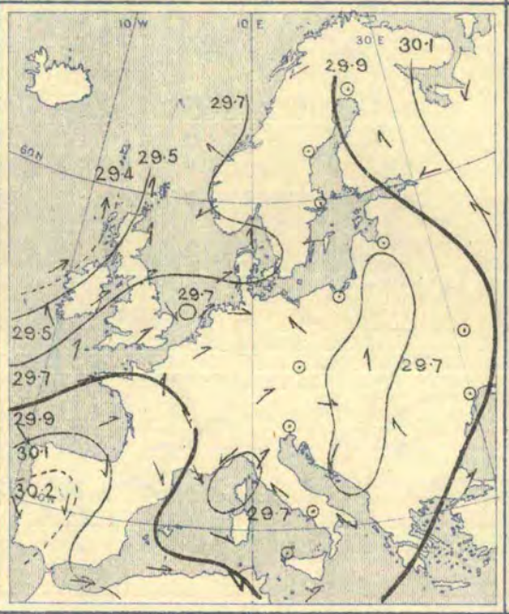
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 6th November.

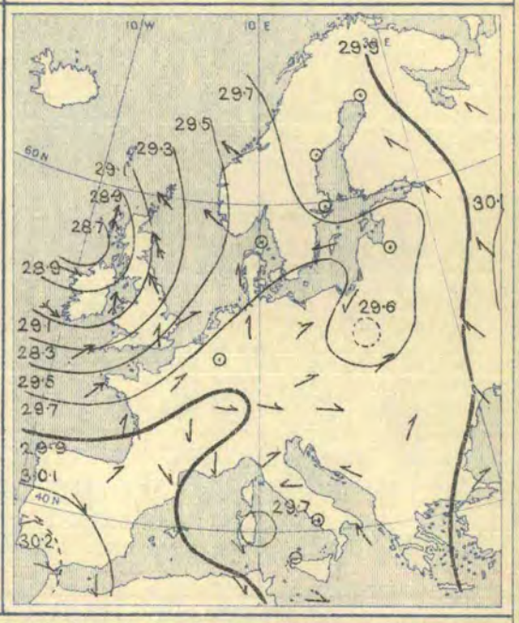
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in all the more eastern parts of Great Britain, as well as in Norway, Denmark, the Netherlands, Spain, and the south of France. Dull elsewhere, with rain in the south-west of our Islands and various isolated parts of the Continent, and fog over Sweden, the Baltic, and the south of Russia. Rain setting in later over the whole of the United Kingdom and France, amounts exceeding an inch at several of our northern and north-western stations, the largest of all being 1·8 ins. at Donaghadee. Thunderstorms occurring in the Riviera.

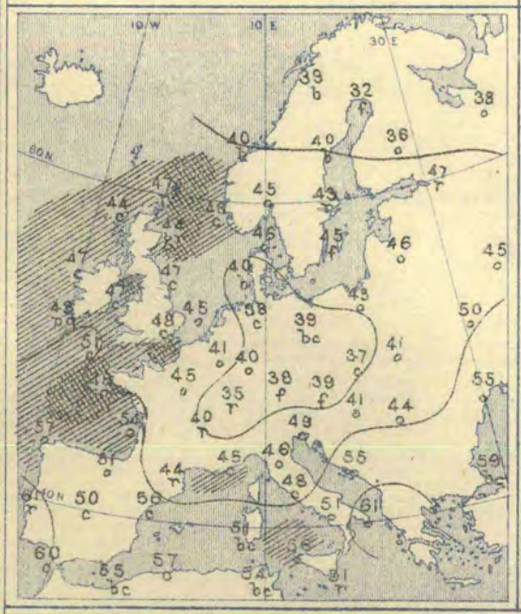
Temperature highest, 66° at Malta, 62° at Brindisi, 60° at Constantinople, and 59° at Oran; above 55° at nearly all the Mediterranean stations and above 50° in the extreme south-west of our Islands. Lowest, 31° at Haparanda, 32° at Archangel, and 35° at Ulleaborg; below 40° over the central parts of England, France, and Spain, and not exceeding 45° in the Riviera. Daily maxima below 55° over the greater part of our Islands and France, and below 50° in our northern districts, but thermometer rising above 60° in Spain and reaching 70° in the south of Italy.

Wind Southerly in the west and north of our Islands, and strong in force on our extreme north-western coasts. Light or moderate from the North-Westward over Spain, France, Algeria, and the east and south of England. Light from the South-Eastward in Russia and from the Eastward in Norway, but variable over Denmark, central Europe, and Italy. Subsequently increasing to a strong or whole gale in all parts of the United Kingdom, from the Southward in the north, but from the South-Westward, veering to the Westward, in the south.

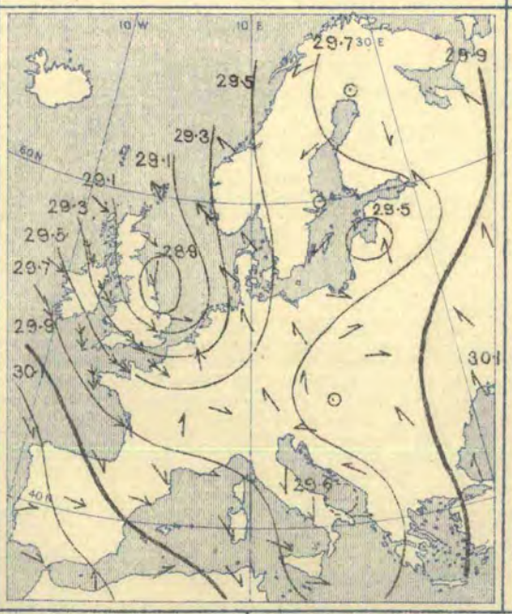
Barometer highest, 30·2 ins. and upwards, in a large anticyclone lying over Russia, and also in a smaller system lying over Spain. Lowest, 29·4 ins., in a deep depression lying to the north-westward of our Islands; 29·7 ins. and less in an elongated area extending from the Baltic Provinces to the Adriatic, and also in a well-defined system lying over Corsica and the Gulf of Genoa. Depression to the north-westward of our Islands subsequently travelling eastwards, and occasioning a rapid fall of the barometer over the whole Kingdom, with very steep gradients. Corsican disturbance moving slowly southwards.

Friday, 7th November.

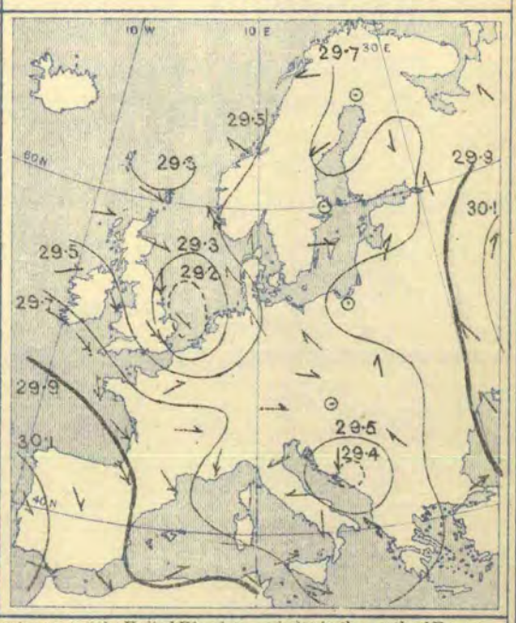
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather dull and unsettled over the greater part of Europe, but fine over Scandinavia, the south-west of our Islands, and some parts of Germany and Algeria. Rain falling over central England and the east of Scotland, as well as over the Gulf of Finland and some parts of France; fog reported at some of the Swedish and Baltic stations. Rain falling during day in most parts of Europe—heavily at some of the Algerian stations; lightning and bright aurora seen in the north of Scotland at night.

Temperature highest, 61° at Lisbon and Brindisi, 60° at San Fernando, and 59° at Oporto and Constantinople; above 50° at most of the Spanish and Mediterranean stations, and also in the Channel Islands. Lowest, (1) 32° at Haparanda, 33° at Archangel, and 36° at Ulleaborg; (2) 33° at Munich, 35° at Belfort, and 37° at Breslau and Cracow. Daily maxima below 50° over the greater part of the United Kingdom. Thermometer exceeding 70° at Brindisi, and rising to between 60° and 68° over southern Europe generally; frost occurring over the north of Scotland at night and also (on the ground) over the inland parts of England.

Wind North-Westerly over the greater part of the United Kingdom, and also in the north of France, light or moderate in force on our eastern coasts, but strong to a gale elsewhere; gale severe over the Irish Sea. South-Easterly over nearly the whole of northern and central Europe, with a gale at Skudesnaes. Moderate from the Westward in Spain, light from the Northward or North-Westward in Italy and Tunis, Southerly in Algeria. Gale moderating over our Islands later and wind backing to West or South-West on our extreme western coasts. Very little change later.

Barometer highest, 30·1 ins. and upwards, in a large anticyclone lying over Russia, and also in a smaller system lying to the south-westward of the Iberian Peninsula. Lowest, 28·9 ins. and less, in a deep depression lying off the north-east of England (gradients very steep over the west and south of our Islands); 29·5 ins. and less in a shallow system lying over the Gulf of Riga; 29·6 ins. and less in a still shallower disturbance over the southern part of the Adriatic. Depression off our north-east coasts subsequently moving slowly south-eastwards and becoming very much shallower; barometer beginning to fall again in extreme west in evening, and anticyclone over Russia spreading westwards over Europe.

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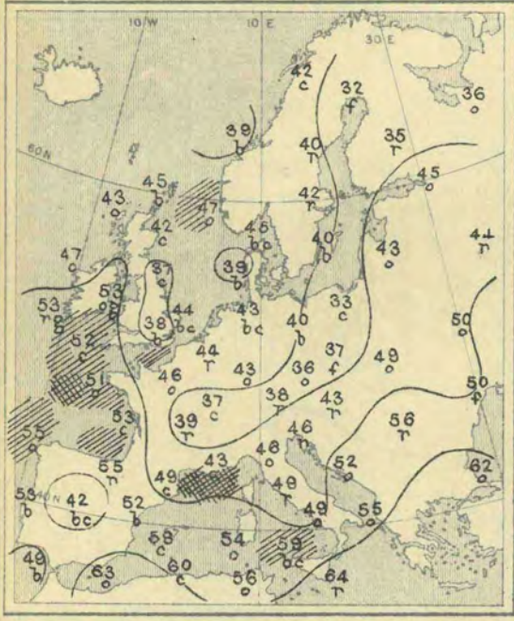
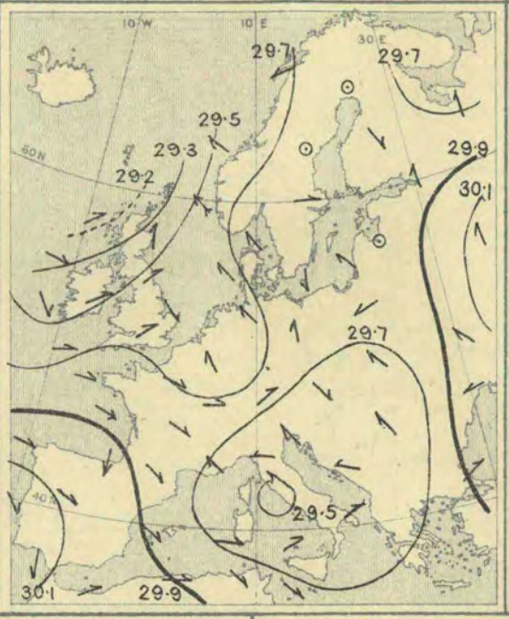
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 8th November.

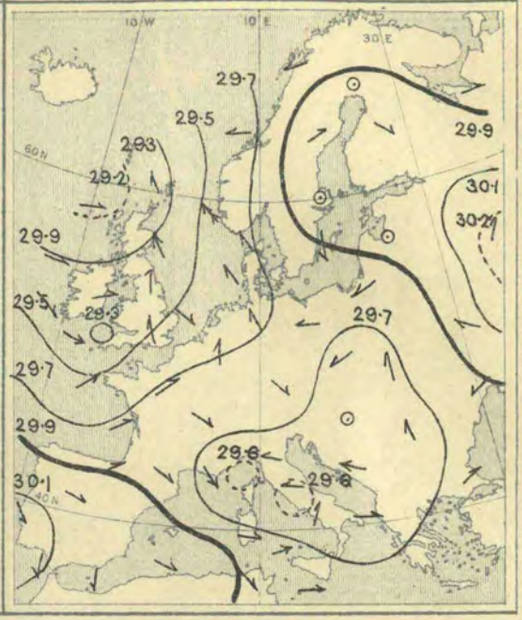
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



6 p.m.



Weather much finer over the North Sea and Great Britain than of late, but in a very unstable changeable condition, as a whole, over Europe. Clear and bright in some localities, foggy in others, and rainy in many. Rain later in all parts of the British Islands, in most parts of France and Germany, and several parts of Italy—heavy in some districts, slight in others.

Temperature in morning slightly above 60° at Constantinople, Malta, and some parts of Algeria, and above 50° over south-eastern and south-western Europe generally and the western parts of France and the British Islands. Much lower inland—the lowest being (1) 29° at Uleaborg, 32° at Haparanda, 36° at Archangel; (2) 36° at Prague, 37° at Breslau and Belfort, 38° at Munich; (3) 32° to 38° over the inland parts of England. Exceeding 55° in several parts of our Islands and France later.

Wind very variable both in force and direction; mainly South-Westerly in Ireland and Scotland, South-Easterly on the eastern shores of the North Sea, Westerly in the west of France, North-Westerly over the Iberian Peninsula. Gales of past two days all subsided. Light variable airs prevalent over eastern and central Europe. Small cyclonic circulation of strong winds appearing over English Channel later, and strong squally winds from South-East in Scotland.

Barometer highest, about 30·2 ins. to 29·9 ins., over Russia, and also over the Iberian Peninsula. Lowest, 29·2 ins. and less, off the north-west of Scotland, and about 29·5 ins. in two small depressions—one near Holland, the other near Rome. Depression near Holland filling up later, but a new one appearing over the English Channel and north of England.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the whole of this week two high-pressure systems have prevailed over Europe—one to the south-westward of the Spanish Peninsula, and the other over Russia. Several large depressions have appeared off the north-west and north of our Islands; and while their centres have in most cases travelled north-eastwards to the Norwegian coasts and dispersed, the secondary disturbances which have appeared in their rear have occasionally developed considerable intensity, and have spread southwards towards central Europe. Between the 6th and 7th a primary and secondary disturbance of great depth appeared over our Islands and occasioned severe Southerly to Westerly and North-Westerly gales over nearly the whole Kingdom. Both systems ultimately dispersed on reaching the North Sea, but at the close of the week fresh depressions were appearing over our western and northern coasts. Shallow disturbances have been observed from time to time over Italy, the Adriatic, and the Mediterranean, and copious rains have therefore fallen in those regions.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March, April-June, and July-September, *price* 4d. *each.*

SUPPLEMENT.—Monthly Summary of Observations, January, February, March, and April, *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 46]. *Third Series.* WEEK ENDING SATURDAY, 15TH NOVEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 272.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	50	33	47·2	39·3	43·3	2 above.	20	+ 5	8	−12	2048	+196	495	− 97
	1. SCOTLAND, EAST -	56	23	46·7	35·0	40·9	1 above.	13	− 4	28	+ 5	2393	+ 38	569	− 67
	2. ENGLAND, N.E. - -	56	28	48·1	35·3	41·8	0 (average)	17	− 1	28	+10	2686	+153	445	− 99
	3. ENGLAND, EAST -	57	27	50·1	33·4	41·8	1 below.	23	+ 1	36	+18	2975	+ 66	540	− 33
	4. MIDLAND COUNTIES	57	25	50·3	33·6	41·9	0 (average)	23	+ 2	35	+13	2907	+ 38	550	− 31
	5. ENGLAND, SOUTH -	58	24	52·6	37·3	45·0	1 above.	41	+14	13	− 2	3223	+ 59	338	− 83
Principal Grazing &c., Districts.	6. SCOTLAND, WEST -	55	32	48·5	33·1	40·4	2 above.	26	+ 5	11	− 6	2584	+ 97	358	−102
	7. ENGLAND, N.W. -	56	32	49·1	37·8	43·5	0 (average)	28	+ 6	12	− 3	2797	+142	329	− 98
	8. ENGLAND, S.W. -	58	26	51·8	38·8	45·3	0 (average)	37	+ 2	9	+ 2	3048	− 15	254	+ 2
	9. IRELAND, NORTH -	58	24	49·6	37·9	43·7	1 above.	29	+ 6	11	− 3	2707	+124	315	− 85
	10. IRELAND, SOUTH -	61	27	51·4	38·6	44·0	1 below.	37	+ 5	15	+ 3	3075*	+130	230	− 36
	— CHANNEL ISLANDS -	59	39	53·8	45·8	49·8	2 above.	55	+ 8	0	0	3459	+ 87	71	− 23

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 272.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	6	11	3 less	235	+34	50·7	+ 3·5	12	18	999	−180	24	− 4
	1. SCOTLAND, EAST -	5	13	6 more.	193	+23	30·1	+ 1·4	13	23	1222	−119	30	− 2
	2. ENGLAND, N.E. - -	5	4	3 less.	165	+ 1	22·1	− 2·5	16	27	1216	− 3	30	0
	3. ENGLAND, EAST -	5	3	3 less.	163	− 6	20·7	− 2·4	21	35	1537	+ 51	38	+ 1
	4. MIDLAND COUNTIES-	5	6	1 less.	160	− 4	20·6	− 5·8	23	37	1344	+ 14	33	0
	5. ENGLAND, SOUTH -	5	5	2 less.	159	+ 2	23·5	− 1·3	18	29	1445	+ 18	36	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	6	20	9 more.	200	+18	47·8	− 0·1	15	26	1276	− 8	31	0
	7. ENGLAND, N.W. - -	6	12	3 more.	188	+18	32·0	+ 0·7	9	16	1212	− 71	30	− 1
	8. ENGLAND, S.W. - -	7	13	2 more.	192	+12	33·5	− 5·1	18	29	1468	− 67	36	− 2
	9. IRELAND, NORTH -	6	18	9 more.	218	+16	33·9	+ 1·8	20	34	1197	− 10	29	0
	10. IRELAND, SOUTH -	6	13	9 more.	202	+14	36·5*	+ 1·4	24	39	1325	− 55	33	− 1
	— CHANNEL ISLANDS -	7	14	4 more.	185	−10	29·2	+ 0·1	17	27	1727	− 94	43	− 2

General Remarks.

Weather has continued in an unsettled condition very generally. Rain has fallen almost daily at most of the western and northern stations, but over the eastern, central, and southern parts of England the falls have been slight and less frequent.

Temperature has been a little below the mean in "England E." and "Ireland S.," but equal to the normal or slightly above it in all other parts of the Kingdom. The highest of the maxima were registered on the 14th, when they varied from 50° in "Scotland N." and 55° in "Scotland W." to 59° in the "Channel Islands" and 61° in "Ireland S." The lowest of the minima, which were recorded at most stations on the 10th, ranged from 24° in "England S." and "Ireland N." to 33° in "Scotland N." and 39° in the "Channel Islands."

Rainfall has been rather less than the mean over all the eastern, southern, and central parts of England, and also in the north of Scotland, but in all other districts it has been in excess, especially over Ireland and the east and west of Scotland.

Bright Sunshine shows a slight increase on that recorded last week, the percentage of the possible amount having ranged from 16 in "England N.W." to 37 in the "Midland Counties" and 39 in "Ireland S."

Barometer and Wind.—Many depressions have appeared in our neighbourhood during this period. The primary systems have generally moved north-north-eastwards outside our western and northern coasts, while the secondary disturbances have passed eastwards or north-eastwards over our Islands. The prevailing winds have been Westerly and South-Westerly, and have frequently been fresh to strong in force; in Scotland, however, strong winds or gales from the South-Eastward have been occasionally experienced.

* This value has been altered owing to the receipt of further information.

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36 350 11 | 90 607

III.– DATA from which the SUMMARY on page 271 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	49	41	48·9	43·4	46·2	+4·1	29	0	7	0·81	—0·18	*	*
	Stornoway	49	33	48·3	38·7	43·5	+1·7	24	9	6	0·31	−0·77	19·0	34
	Wick	48	38	47·6	41·3	44·5	+3·0	20	2	5	0·81	+0·13	*	*
	Lairg Ⓢ	48	35	45·3	37·2	41·3	+1·0	9	19	5	0·64	−0·27	*	*
	Glencarron Ⓢ	50	34	46·3	37·0	41·7	+1·9	12	21	5	1·17†	−1·11	?	?
	Fort Augustus Ⓢ	49	34	46·8	37·9	42·4	+1·6	20	11	5	1·39†	+0·42	8·8	15
	Fort William Ⓢ	50	36	47·1	39·4	43·3	+1·6	20	7	7	2·22†	+0·41	8·2	14
1. SCOTLAND, E.	Nairn	51	28	47·0	34·1	40·6	−0·2	14	32	3	0·81	+0·28	*	*
	Aberdeen	49	33	48·3	39·9	44·1	+3·2	24	6	5	1·29	+0·54	15·2	27
	Braemar Ⓢ	46	30	42·3	34·6	38·5	+1·5	1	26	5	1·36	+0·47	6·0‡	11‡
	Ochtertyre Ⓢ	52	31	46·9	33·6	40·3	+0·1	14	33	6	2·69	+1·70	*	*
	Leith Ⓢ	56	30	49·1	34·4	41·8	+0·8	20	32	3	0·86	+0·38	16·2‡	28‡
	Marchmont Ⓢ	52	30	46·6	33·4	40·0	+1·6	13	33	6	1·01	+0·21	13·5	24
2. ENGLAND, N.E.	Alnwick Castle	52	29	47·7	33·0	40·4	−0·8	16	36	5	0·56	−0·19	*	*
	Durham	55	28	47·3	33·3	40·3	−0·8	15	34	7	0·35	−0·34	16·1	28
	Shields	54	33	49·6	35·6	42·6	+0·1	31	18	4	0·40	−0·21	*	*
	Scarborough Ⓐ	56	32	47·5	37·1	42·3	+0·2	23	14	4	0·28	−0·44	18·3‡	30‡
	York	56	32	49·0	33·9	41·5	−0·5	20	34	6	0·36	−0·15	13·9	23
	Spurn Head	52	35	47·7	39·1	43·4	+0·4	22	8	5	0·27	?	*	*
3. ENGLAND, E.	Hillington Ⓐ	56	28	49·1	31·2	40·2	−2·4	20	43	5	0·44	−0·19	22·7	37
	Yarmouth	52	33	48·1	36·6	42·4	−0·7	25	15	6	0·25	−0·50	*	*
	Geldeston	56	27	50·6	33·6	42·1	−1·4	36	24	5	0·26	−0·38	18·2	30
	Cambridge	57	29	51·7	32·4	42·1	−0·3	41	27	3	0·19	−0·29	22·3	37
	Rothamsted	56	28	51·0	? 33·1	? 42·1	? +0·4	?38	?25	4	0·36	−0·27	22·1	36
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	56	26	49·0	30·9	40·0	−2·8	20	44	4	0·33	−0·18	17·4‡	29‡
	Loughborough	57	29	51·4	33·1	42·3	+0·6	39	25	5	0·49	−0·06	23·4‡	38‡
	Cheadle Ⓐ	55	30	49·0	35·0	42·0	+0·8	20	20	7	0·82	+0·09	*	*
	Churchstoke Ⓐ	56	32	51·2	34·3	42·8	+1·0	38	22	7	0·88	+0·06	21·9	36
	Hereford Ⓐ	56	31	50·2	36·4	43·3	+0·9	33	16	6	0·41	−0·15	*	*
	Cirencester	56	25	49·9	31·1	40·5	−1·2	22	44	4	0·64	−0·07	24·7	41
	Oxford	56	31	51·3	34·1	42·7	+0·7	38	22	5	0·54	−0·01	26·1	43
5. ENGLAND, S.	London	57	31	52·3	35·3	43·8	+0·8	41	19	4	0·23	−0·27	11·0‡	18‡
	Strathfield Turgiss Ⓐ	56	24	51·4	30·7	41·1	−1·6	26	46	4	0·29	−0·30	*	*
	Dungeness	58	35	53·9	39·3	46·6	+1·8	44	8	6	0·47	−0·35	20·0‡	32‡
	Hastings (St. Leonards)	56	38	53·3	41·8	47·6	+2·8	40	1	6	0·80	+0·05	18·1	29
	Southampton	57	30	53·9	36·8	45·4	+1·4	46	15	5	0·45	−0·23	21·7	35
	Hurst Castle	56	32	52·6	41·0	46·8	+1·5	38	3	6	0·78	+0·08	*	*
	Stowell Ⓐ	55	29	50·6	36·2	43·4	+0·2	34	16	7	0·50	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	50	37	47·5	40·3	43·9	+1·4	20	5	7	1·26†	−0·94	*	*
	Glasgow	54	34	47·4	37·7	42·6	+2·3	22	12	5	1·14	+0·63	11·8	21
	Ardrossan	54	35	50·0	39·1	44·6	+2·9	30	8	5	1·51	+0·59	*	*
	Glenlee Ⓢ	55	32	47·7	34·2	41·0	+1·3	16	32	7	3·17†	+1·79	*	*
	Douglas (Isle of Man)	55	34	50·0	39·4	44·7	+1·8	30	7	7	2·39	+1·32	18·3	31
7. ENGLAND, N.W.	Newton Reigny	53	32	47·4	33·2	40·3	−0·7	15	35	4	0·71	−0·09	13·3	23
	Stonyhurst	54	34	48·4	36·0	42·2	+0·3	27	17	6	0·81	−0·29	12·2	20
	Blackpool Ⓐ	53	36	48·3	38·8	43·6	−0·6	25	9	6	1·92	+1·12	2·7	5
	Manchester	55	34	50·8	35·9	43·4	+0·6	35	17	7	0·61	−0·26	*	*
	Liverpool Obsy. (Bidston)	56	34	49·0	39·1	44·1	+0·1	27	8	7	0·83	+0·15	*	*
	Llandudno Ⓐ													
	Holyhead	56	41	50·9	44·0	47·5	+1·3	39	0	7	2·14	+1·25	*	*
8. ENGLAND, S.W.	Llandovery	57	30	50·7	33·6	42·2	−1·5	37	24	7	1·20	+0·03	*	*
	Pembroke	56	42	52·6	45·4	49·0	+3·3	49	0	7	1·11	+0·19	22·6	37
	Arlington (N. Devon)	56	32	50·4	37·6	44·0	+0·8	32	12	7	1·93	+0·51	*	*
	Cullompton Ⓐ	57	26	51·7	34·0	42·9	−1·3	40	22	6	1·00	+0·20	17·5	28
	Falmouth	57	39	51·9	42·8	47·4	+0·7	38	0	7	2·04	+0·76	16·7	27
	Plymouth	58	33	53·0	37·4	45·2	−1·1	42	13	6	1·32	+0·50	14·5	23
	Prawle Point	55	35	52·3	41·1	46·7	+0·4	37	3	7	0·56	?	*	*
9. IRELAND, N.	Malin Head	52	38	48·3	40·0	44·2	+0·7	24	6	6	1·00	?	*	*
	Londonderry	57	33	49·8	38·0	43·9	+1·0	30	11	6	1·53	+0·52	*	*
	Mullaghmore	57	38	51·3	41·3	46·3	+2·8	33	2	6	1·49	+0·37	*	*
	Belmullet	52	34	49·4	40·9	45·2	−0·8	27	3	7	1·91	?	*	*
	Markree Castle	56	26	49·7	35·1	42·4	−0·2	32	19	7	1·95	+1·13	17·3	29
	Brookeborough	56	24	49·7	35·3	42·5	+0·6	32	19	7	2·46	?	*	*
	Armagh	58	3	49·4	37·7	43·6	+0·9	29	12	6	1·86	+1·21	22·9	38
	Donaghadee	55	33	49·4	37·1	43·3	−0·5	30	14	6	1·74	+1·00	*	*
	Edgeworthstown	54	7	49·0	35·3	42·2	0·0	30	19	7	2·28	+1·45	*	*
10. IRELAND, S.	Dublin	61	33	50·1	38·4	44·3	+0·2	31	10	6	1·11	+0·58	28·0	46
	Parsonstown	58	31	50·7	34·6	42·7	0·0	36	21	7	1·84	+1·19	22·7	37
	Kilkenny	57	27	49·9	31·7	40·8	−2·2	22	42	7	1·30	+0·70	*	*
	Waterford	56	27	51·2	32·1	41·7	−3·8	26	41	5	1·35	+0·45	*	*
	Roche's Point	56	33	52·3	37·9	45·1	−1·2	39	11	6	1·71	+0·66	*	*
	Valencia	58	35	53·4	40·3	46·9	−0·8	41	5	7	2·52	+1·22	20·7	34
	Killarney	58	31	52·0	38·1	45·1	−0·9	38	11	6	3·02	?	*	*
	Foynes	60	33	51·7	39·7	45·7	+2·2	36	6	6	1·23	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	57	44	53·0	46·6	49·8	+0·5	55	0	7	0·98	+0·10	*	*
	Jersey	59	39	54·6	44·9	49·8	+2·8	55	0	7	1·73	+0·74	17·4	27

Stations marked Ⓐ are in connection with the Royal Meteorological Society, and those marked Ⓢ with the Scottish Meteorological Society.

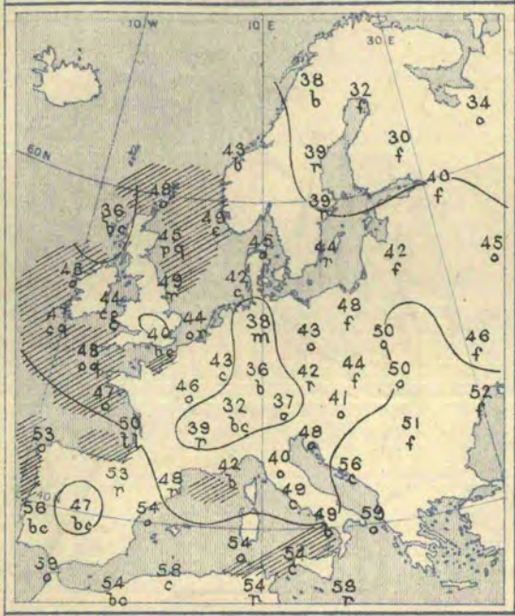
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

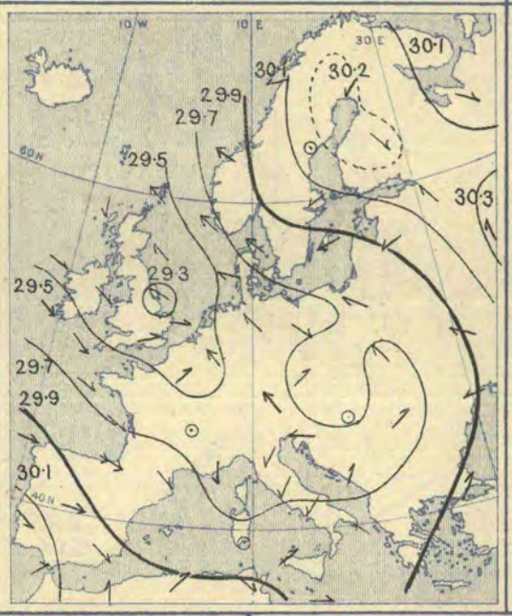
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 9th November.

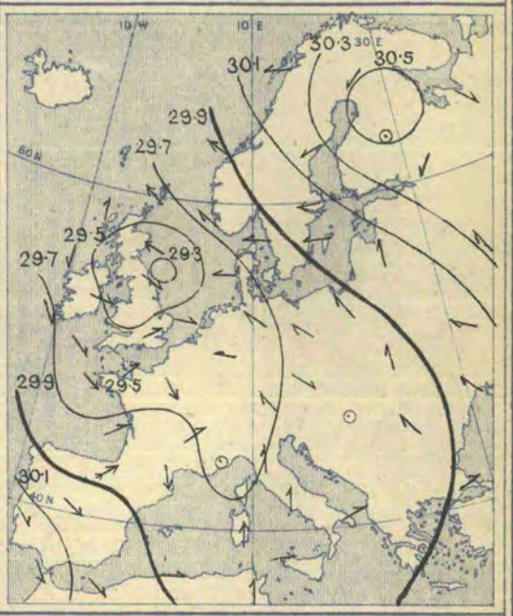
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning foggy over Finland and in many parts of Germany, Austria, and western Russia; fine and bright in Norway and over the greater part of Spain, very unsettled elsewhere. Rain falling in many parts of the Baltic, the British Isles, and the south and west of France; thunder at Rochefort. Rain falling subsequently in the Skager Rack, most parts of the British Islands, large quantities in the west and south of France, and a considerable quantity in the north of Italy; lightning seen at Prawle Point.

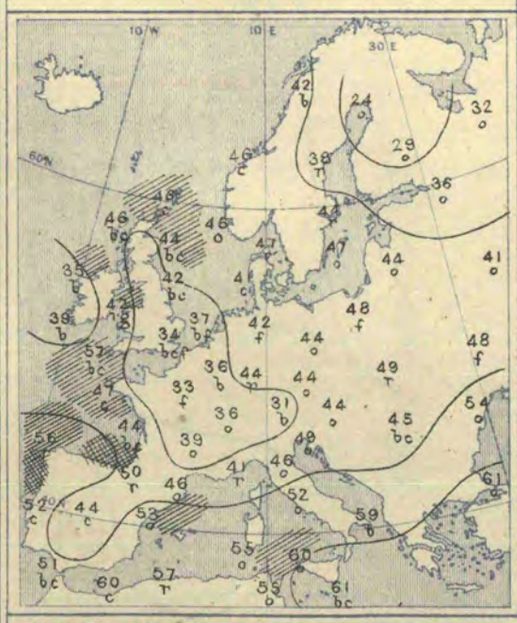
Temperature changing very fitfully; fallen 18° over central Ireland, risen 10° to 15° over the Baltic Provinces. Morning readings exceeding 50° on the extreme south-western, southern, and south-eastern coasts of Europe only. Lowest, 30° to 34°, over the north of Russia and in Lapland, 32° at Parsonstown, and 36° at Stornoway, Oxford, and Wiesbaden. Not reaching 50° over our Islands nor in Germany, as a whole, during the day, but exceeding 55° in some parts of France and Italy.

Wind mainly Easterly and South-Easterly over the northern parts of the Continent, the North Sea, and east of Scotland; mainly North-Westerly over Ireland, the Irish Sea, the south-west of England, and the western parts of France and Spain; very variable elsewhere. Strong North-Westerly gale reported at Biarritz and strong East-South-Easterly squalls at Aberdeen; the latter increasing to a gale at times later on, while in Ireland the wind veered to North and North-West and remained moderate.

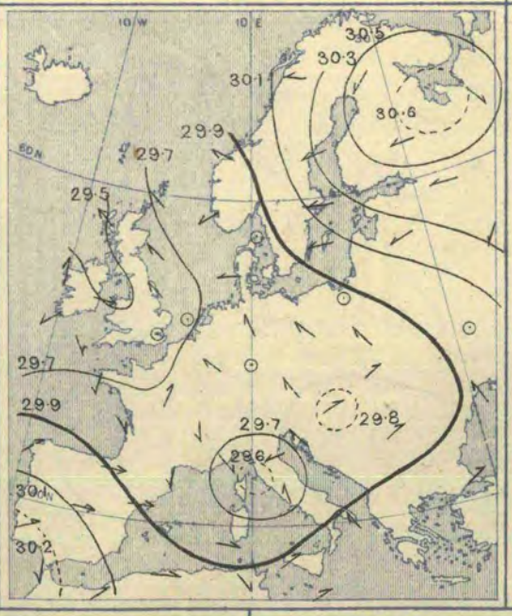
Barometer highest, 30·3 ins. to 29·9 ins., over Russia, Finland, and the north of Sweden, and 30·1 ins. to 29·8 ins. over the Spanish Peninsula; below 29·7 ins. over Italy, Switzerland, France, the Netherlands, and the British Islands, and below 29·3 ins. in a depression over Yorkshire, and 29·4 ins. in another one near Abbeville. Rising generally during day, and the depressions noted above undergoing great modifications, while a new one appeared temporarily at the mouth of the English Channel.

Monday, 10th November.

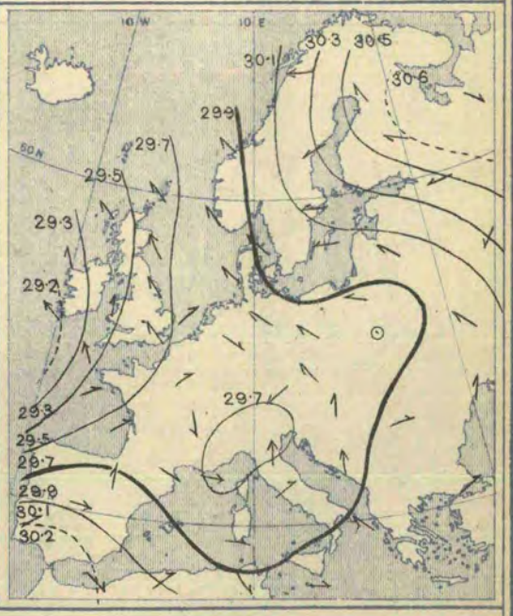
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine over south-eastern Europe, in some parts of Spain, and in many parts of the British Islands; dull and unsettled elsewhere, with rain over many parts of the Continent, fog in Austria and southern Russia. General condition very unstable, rain again setting in over the British Isles and west of France later, a heavy fall at Biarritz, and considerable quantities in Spain and Italy also.

Temperature slightly above 60° at Constantinople, Malta, and Palermo, and above 50° over the southern parts of Russia and the Mediterranean, and on the Spanish and Portuguese coasts. Lowest of all, 24° to 32° over Finland and northern Russia, 31° to 39° over central France and south Germany, 34° to 36° over the inland parts of Ireland and England. Rising to 50° and more over England and the south of Ireland during day, as well as in the west of France, but not exceeding 37° at Munich. Changing fitfully over our Islands towards night.

Wind Easterly to South-Easterly over northern Europe, South-Easterly over the North Sea, Scotland, the north of Ireland, and the midland and north-eastern parts of England; North-Westerly over the southern half of Ireland, Wales, the west of England, Brittany, and the west of France. Light variable airs prevalent over the greater part of Russia and central Europe, Westerly winds over the southern shores of the Mediterranean. Strong Southerly winds setting in over the United Kingdom later.

Barometer highest, 30·6 ins. to 30·0 ins., over northern Europe, and 30·2 to 29·9 ins. over the Spanish Peninsula and Algeria; below 29·8 ins. over Austria, western Germany, and the greater part of France, and as low as 29·5 ins. on our own north-west coasts, and 29·6 ins. over the Gulf of Genoa and off the south-west of Ireland. New large depression approaching our Islands from the westward later.

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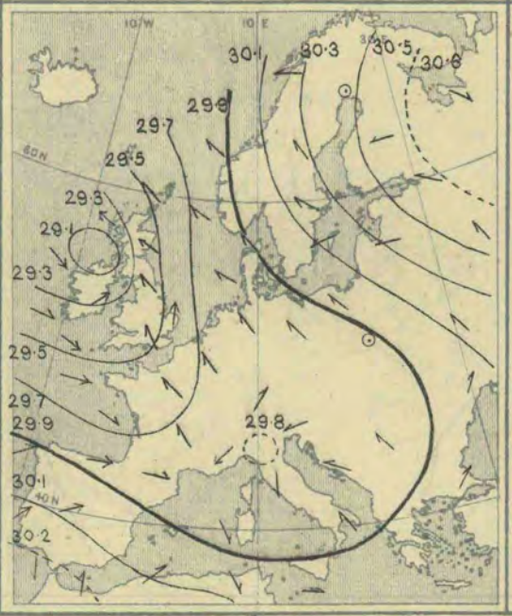
II.—SUMMARY OF WEATHER OVER EUROPE.

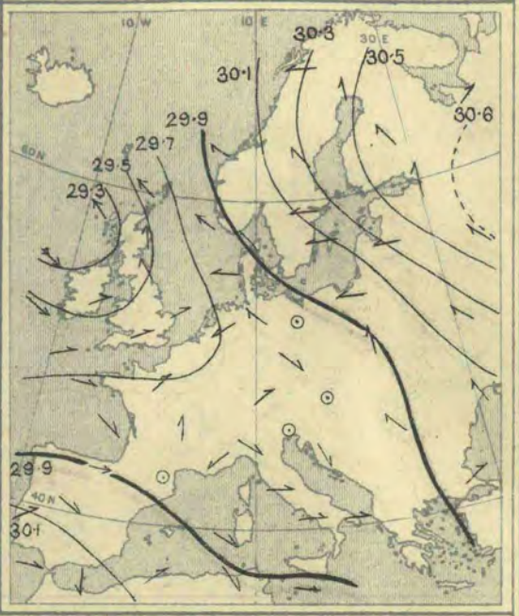
Tuesday, 11th November.

Temperature and Weather. 8 a.m.

Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and unsettled over Europe generally, with fog in the south-west of Russia and the east and south of Germany; squally, rainy, and rough over the British Islands and their neighbourhood. Rainfall during day heavy at Biarritz, and considerable in the west and north of our Islands, as well as in some parts of Italy and Germany, but weather soon improving in south and east. Lightning seen at some southern stations in evening.

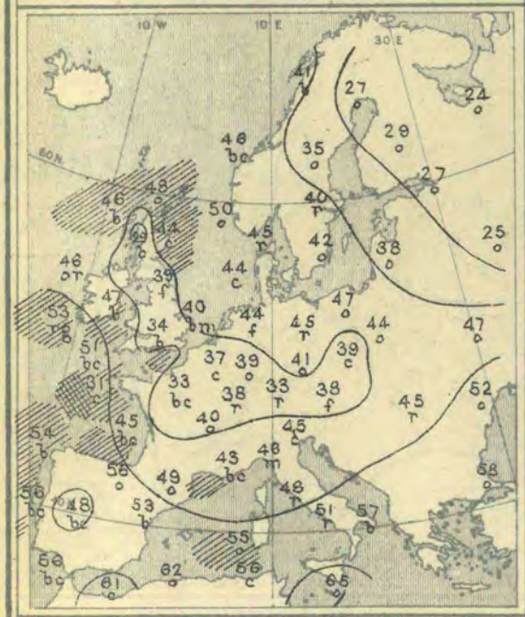
Temperature risen considerably over the British Islands, fallen over Russia and central Europe. Morning readings exceeding 50° over south-eastern Europe, the southern parts of the Mediterranean, and on the western coasts of the Spanish Peninsula and France, and exceeding 40° over all parts of the British Isles. Lowest of all, 27° to 29°, over Finland, northern and central Russia, 32° to 40° over western Germany and central France. Changing irregularly later, low over Great Britain at night.

Wind mainly Westerly over Ireland, Wales, the south of England, the Bay of Biscay, and the Spanish Peninsula—moderate to a gale in force; strong from South over our eastern counties, and strong to a gale from South-East in the north. Easterly breezes prevalent over Scandinavia and the Baltic, South-Easterly airs over central and southern Russia, varying airs and calms over central Europe. No very decided change later, beyond an increase in the force of the gale over Scotland.

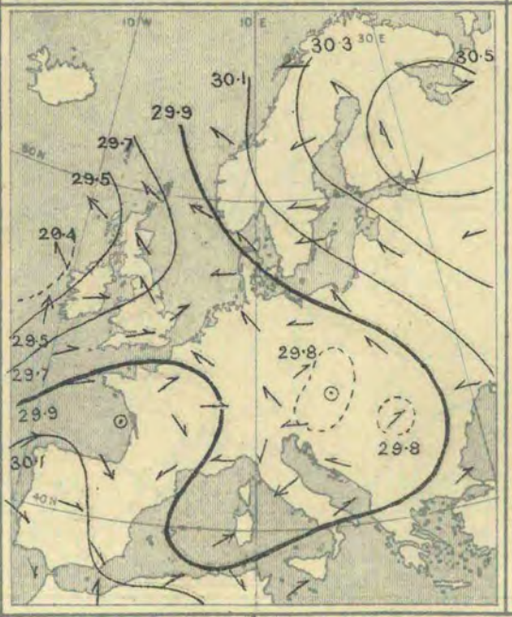
Barometer highest, 30·6 ins. and more to 30·0 ins., over northern and eastern Europe, and 30·2 ins. to 29·9 ins. over the Spanish Peninsula and Algeria. Below 29·8 ins. over nearly the whole of Austria, south Germany, France, Holland, and our Islands, and as low as 29·0 ins. over the north of Ireland, 29·4 ins. and less over Wales and the west of England. Rising temporarily in the British Islands later, no great change elsewhere.

Wednesday, 12th November.

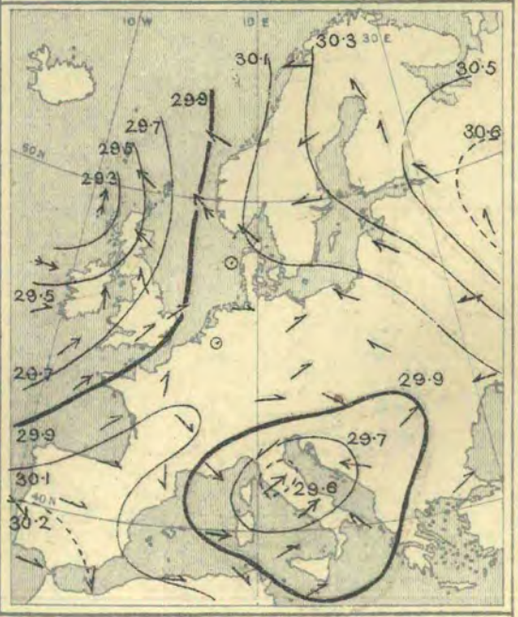
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather still unsettled as a whole; temporarily fine over England and Norway in morning, as well as on the Spanish coast and on the southern shores of the Mediterranean; dull elsewhere. Rainy in Ireland, at many of the Baltic, German, and French stations, in Italy, and Corsica; foggy in Austria. Rain falling very generally over Sweden and the British Isles later, as well as in the north of France and on the eastern shores of the North Sea, but amounts reported not large; a large amount over Italy, the Adriatic, and south-eastern parts of the Mediterranean.

Temperature changed considerably and irregularly. Morning readings exceeding 60° at Malta and in Algeria only, but exceeding 50° at many of the extreme southern and western stations, including those on our own south-west coasts; as high as 48° at Sumburgh Head, 50° at Skudesnaes. Lowest values, 24° to 29° over Russia and Finland, 33° to 39° over western and southern Germany, and 29° to 38° over the inland parts of Great Britain. No material change later beyond the ordinary effect of diurnal range.

Wind Easterly over northern Europe, South-Easterly over the Baltic Provinces, as well as over the North Sea and Scotland; light to moderate in most places, but blowing a gale at Wick. Southerly to South-Westerly on our western coasts (a gale at Valencia). Westerly over the Bay of Biscay, very variable and light over France and central Europe, but strong and cyclonic over the Mediterranean. Veering to the Westward in Ireland later, and blowing from between South-East and South-West at our northern and north-western stations.

Barometer highest, 30·5 ins. to 30·1 ins., over northern and eastern Europe, and 30·2 ins. to 30·0 ins. over the Spanish Peninsula and Algeria; below 29·9 ins. over the Mediterranean, central Europe, the North Sea, and the British Isles, and as low as 29·5 ins. and less off our west and north-west coasts, and 29·7 ins. over Sardinia, Corsica, and central Italy. New depression approaching Scotland from the south-westward later, but barometer still rising over Russia.

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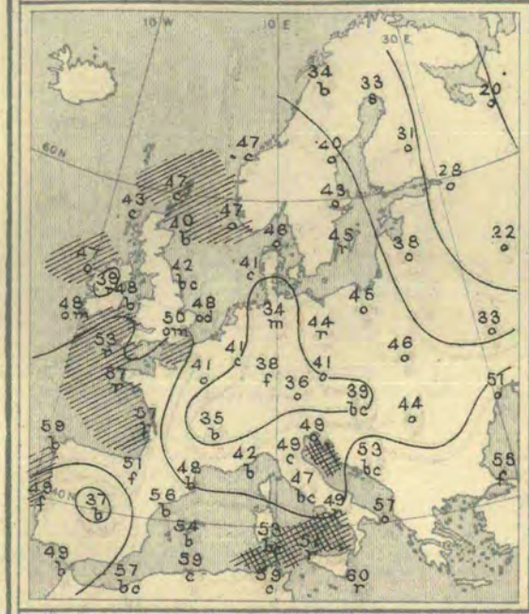
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 13th November.

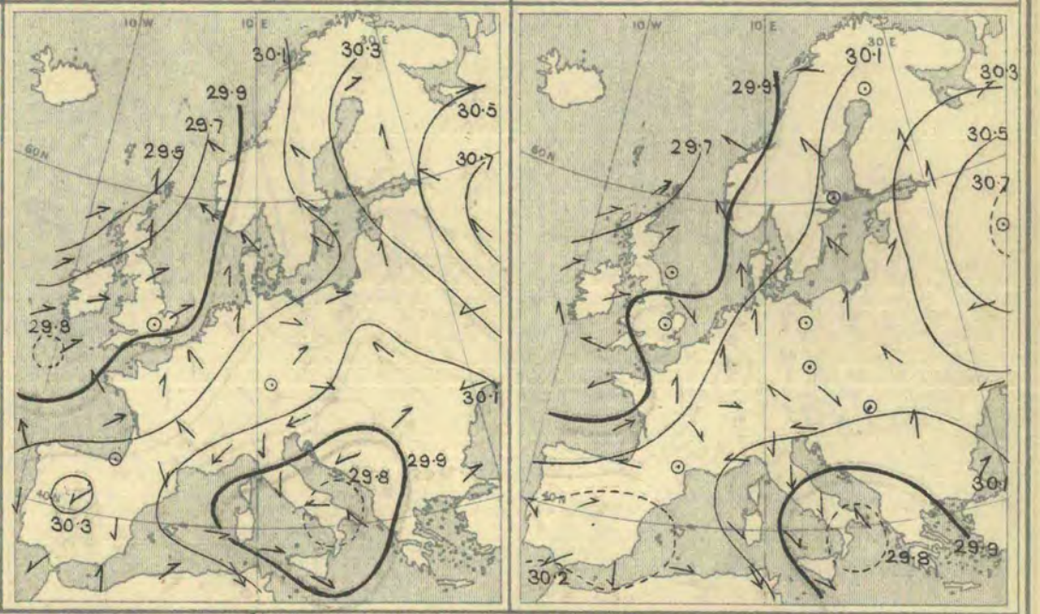
Temperature and Weather. 8 a.m.



Weather in morning fine over the Spanish Peninsula and western half of the Mediterranean, as well as in many parts of the British Islands, Norway, and central France. Dull generally elsewhere, with rain locally over Ireland, the west of France, the south-eastern parts of the Mediterranean, north Germany, and the Baltic. Rain falling later over nearly the whole of north-western Europe and the west of France, as well as over Italy and some parts of southern Russia—heavily in places; dense fogs in the east and south-east of England at night.

Temperature changing but little except over southern Russia, where it had fallen decidedly. Morning readings still exceeding 50° at most of the south-eastern, southern, and south-western stations, as well as on our own south-west coasts, above 40° on the coasts of north-western Europe generally, much lower elsewhere. Ranging from 20° to 30° over Russia, and as low as 36° to 39° over our midland counties and central parts of Ireland, western Germany, and the eastern parts of France. Rising during the day to between 50° and 60° over Ireland, England, and France, to 60° and more in Italy, Spain, and the south-west of France, and to 70° or more at San Fernando and Funchal.

Barometer and Wind. 8 a.m. and 6 p.m.

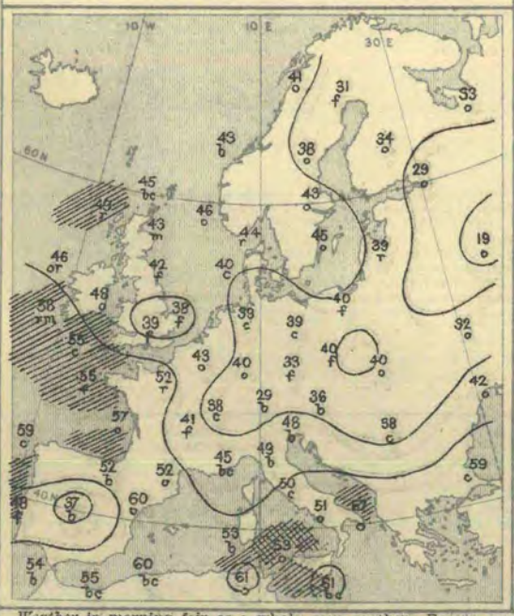


Wind still South-Easterly over the Baltic, Russia, and Scandinavia, mainly South-Westerly over the United Kingdom, very variable over Spain, France, and central Europe. A cyclonic circulation of strong winds prevailing over Italy, the Adriatic, and south-eastern parts of the Mediterranean. Becoming very light and variable over the southern parts of England later, not much change elsewhere.

Barometer highest, 30·7 ins. and more to 30·2 ins., over Russia, Finland, and the greater part of Sweden; 30·3 ins. to 30·2 ins. over the Spanish Peninsula, and 30·2 ins. to 30·1 ins. over the greater part of France and Austria, and nearly the whole of Germany. Lowest, 29·5 ins. and less, off our extreme north-west coasts, and about 29·3 ins. in a depression over the south of Italy, as well as in a shallow system near the mouth of the Channel. Falling briskly over Cornwall and Brittany during the day, rising in Ireland and Scotland.

Friday, 14th November.

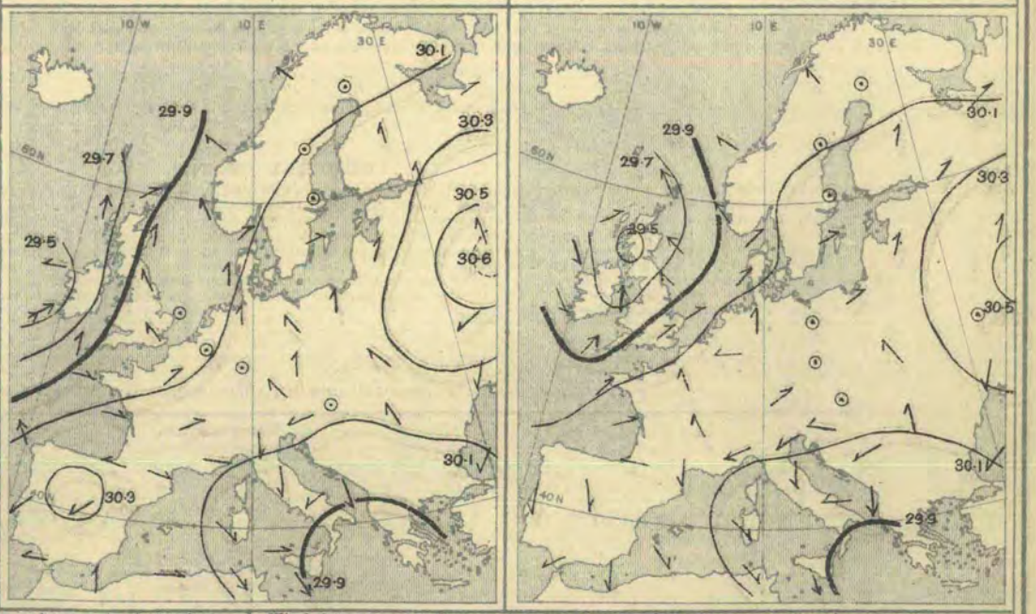
Temperature and Weather. 8 a.m.



Weather in morning fair, as a whole, over southern Europe, more or less unsettled elsewhere; cloudy or overcast in almost all districts, very foggy over south Germany, Brittany, and England, rainy over the west of Ireland, the north of Denmark, and the Baltic Provinces, with snow at Uleaborg. Rain falling later all over the United Kingdom (heavily at some of our north-western stations), and some local showers over the eastern shores of the North Sea, Germany, Russia, and the south-west of France.

Temperature rising over western Europe as a whole, though temporarily rather low over England. Morning readings 50° to 59° in the south-west of our Islands, the west of France, and north of Spain, as well as on the southern and south-eastern shores of the Mediterranean; 52° even at Paris. Low over Russia, south Germany, and our own inland districts, the lowest values of all being (1) 19° at Moscow, 26° at Kharkov, 29° at St. Petersburg, 31° at Haparanda, and 32° at Kiev; (2) 29° at Munich, 33° at Prague, 36° at Vienna, and 38° at Belfort; (3) 34° at Cambridge, 35° over our north-midland counties, and 39° in London. Rising to between 50° and 58° over England during day; reaching 57° in London at night.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind strong to a gale from the Southward on our western coasts, moderate from the same quarter in Scotland and on the eastern shores of the North Sea. Very light elsewhere, chiefly from between West and South over the northern countries, moderate from the Northward over the eastern half of the Mediterranean. Cyclonic system passing Eastwards over our Islands later, so that Northerly winds prevailed over Ireland in evening

Barometer highest, 30·6 ins. to 30·2 ins. over Russia, 30·3 ins. to 30·2 ins. over Spain, and exceeding 30·2 ins. in a "col" extending from Russia, across eastern Germany, Austria, and the southern parts of France, to the Peninsula. Lowest, 29·5 ins. and less in a depression off the west of Ireland, 29·9 ins. and less in a large shallow disturbance over the south-eastern parts of the Mediterranean. Depression over Ireland (minimum 29·3 ins. and less) advancing north-eastwards across Scotland later, followed by a sharp recovery of pressure in Ireland

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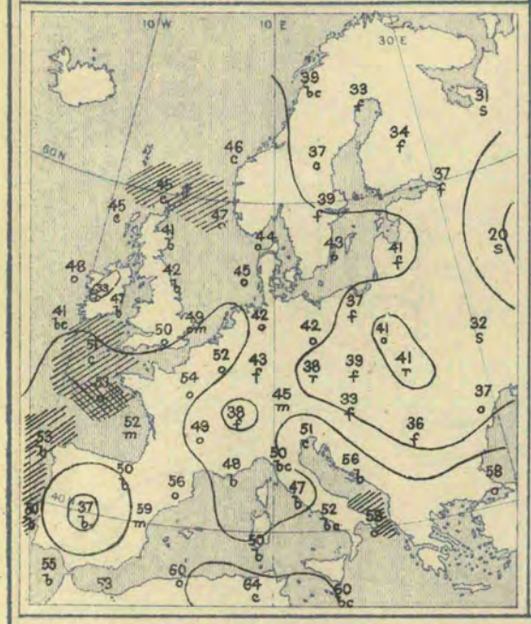
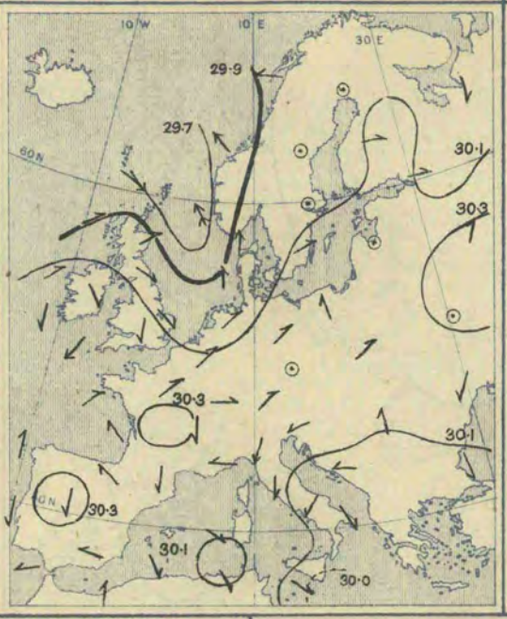
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 15th November.

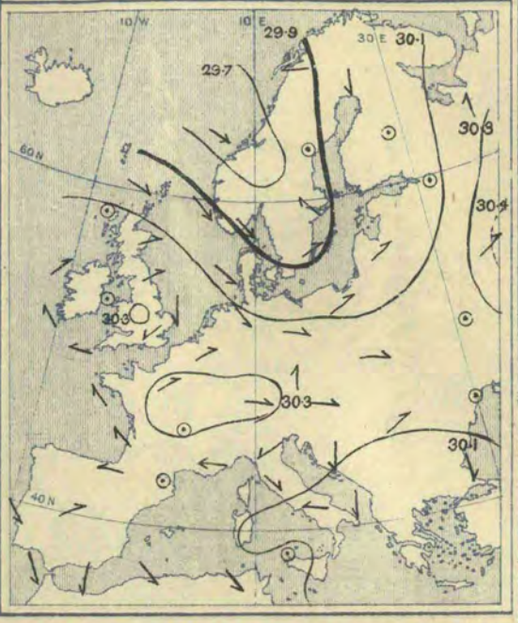
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather, in morning, fine and bright over the Iberian Peninsula, and in many parts of the British Islands and Norway; dull elsewhere, and in most places unsettled. Fog very prevalent at the Baltic and Finnish stations, as well as in many parts of Austria and the south of France, snow over Russia, rain at some Austrian stations. Rain falling later over northern Europe and the west of our Islands generally, but no material quantity over central or southern Europe.

Temperature changing very fitfully over the British Islands—fallen fast in west, risen in east, not altering very much elsewhere. Morning readings exceeding 60° in Algeria and Malta, and exceeding 50° at the Mediterranean stations, on the Atlantic coasts of Portugal, France, and over the English Channel. Much lower (below 40°) over northern, eastern, and central Europe, and as low as 20° at Moscow, 29° at Kharkov, 31° at Archangel, 32° at Kiev, 33° at Vienna, 34° at Uleaborg and Kuopio, 38° at Prague and Belfort. Rising to between 55° and 65° over western and south-western Europe later, as well as over the southern parts of Italy.

Wind very variable and light over central and eastern Europe; strong from the Southward on the eastern shores of the North Sea, light Northerly over England, light Southerly on our extreme north-western coasts. Northerly to North-Westerly over Italy, calm on the Mediterranean coasts of France and Spain. Becoming Southerly over Ireland later, but veering to the North-Westward on the eastern shores of the North Sea and falling light.

Barometer highest, 30·3 ins. (and more) to 30·2 ins. in a broad band extending from the Atlantic across France, Germany, Austria, and Poland to Russia. Lowest, 29·7 ins. and less in a depression lying between Norway and the Shetlands, and about 30·0 ins. in a large shallow area over the south-eastern parts of the Mediterranean. Northern depression advancing over Scandinavia, but fresh fall of barometer setting in over west of our Islands.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the greater part of this week pressure remained high both over northern and south-western Europe, and the two systems were separated by a large and complex low-pressure area stretching from the British Islands across central Europe to Italy and the Balkan Peninsula. Thus, while the dominant winds were South-Easterly and Easterly over the eastern and northern countries those in the west were North-Westerly, and the weather was in a very unsettled condition over most regions. After Thursday, however, a decided change occurred; the low-pressure area broke into two parts—one being confined to the British Islands, Norway, and the parts of the Atlantic adjacent to our north-western and northern coasts, while the other was found over the Mediterranean, and moving in a south-easterly direction. A "col" was now formed over France and central Europe, uniting the two large anticyclonic systems referred to above, and this continued to increase both in size and intensity. At the close of the week the two high-pressure systems appeared to be giving way, and a new anticyclonic area was appearing over France and spreading over that country, Austria, and Germany; South-Westerly winds were therefore becoming prevalent over north-western Europe. A considerable amount of rain has fallen over most countries, but in our Islands the amount collected was large at the western and northern stations only.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
October 25th	Llandudno	58	39	55·2	47·5	51·2	+1·1	64	0	4	0·68	−0·22	?	?
November 1st	Llandudno	57	37	52·0	43·0	47·3	−1·1	37	0	7	1·03	+0·18	?	?
„ 8th	Blackpool	53	24	50·6	39·7	45·2	−0·5	32	6	6	1·38	+0·51	10·5	17
„ 8th	Llandudno	58	40	53·2	43·7	48·5	+1·5	46	0	7	2·20	+1·37	?	?

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 47]. *Third Series.* WEEK ENDING SATURDAY, 22ND NOVEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 278.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Observed during the Week. Averages of Daily Maxima.	Observed during the Week. Averages of Daily Minima.	Observed during the Week. Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
	0. SCOTLAND, NORTH -	57	30	51·2	39·9	45·6	6 above.	34	+22	6	−17	2082	+223	501	−117
Principal Wheat-producing Districts.	**1.** SCOTLAND, EAST -	60	27	51·5	37·8	44·7	6 above.	37	+23	12	−16	2430	+ 68	581	− 86
	2. ENGLAND, N.E. - -	61	29	53·4	39·9	46·6	6 above.	41	+2[illegible]	6	−16	2727	+185	451	−119
	3. ENGLAND, EAST -	57	29	52·9	41·5	47·1	6 above.	38	+21	1	−22	3013	+ 92	541	− 56
	4. MIDLAND COUNTIES	62	29	54·9	42·4	48·7	8 above.	47	+30	0	−27	2954	+ 73	550	− 66
	5. ENGLAND, SOUTH -	58	35	55·1	46·4	50·8	8 above.	62	+39	0	−18	3285	+105	338	−102
	6. SCOTLAND, WEST -	59	30	52·8	41·7	47·1	7 above.	37	+19	1	−19	2621	+122	359	−125
	7. ENGLAND, N.W. -	59	29	53·2	42·9	48·1	6 above.	43	+24	0	−18	2840	+173	329	−119
	8. ENGLAND, S.W. -	57	32	54·4	47·8	51·1	7 above.	64	+34	0	− 9	3112	+ 25	254	− 10
	9. IRELAND, NORTH -	58	30	53·5	42·1	47·8	6 above.	41	+21	0	−18	2748	+152	315	−107
	10. IRELAND, SOUTH -	63	31	55·6	45·3	50·5	7 above.	60	+31	0	−14	3135	+170	239	− 52
	— CHANNEL ISLANDS -	59	47	55·5	50·4	53·0	6 above.	77	+35	0	− 1	3536	+128	71	− 23

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 278.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	Rainfall. From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	Bright Sunshine. From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
	0. SCOTLAND, NORTH -	7	17	0 (average)	242	+36	52·4	+ 3·4	4	7	1003	−183	24	− 4
Principal Wheat-producing Districts.	**1.** SCOTLAND, EAST -	5	7	0 (average)	193	+24	30·8	+ 1·4	10	18	1232	−120	30	− 2
	2. ENGLAND, N.E. - -	4	2	4 less.	169	− 1	22·3	− 3·0	9	16	1225	− 9	30	0
	3. ENGLAND, EAST -	4	3	4 less.	167	− 7	21·0	− 2·7	5	8	1542	+ 40	37	0
	4. MIDLAND COUNTIES-	4	2	4 less.	164	− 5	20·8	− 6·2	6	11	1350	+ 5	33	0
	5. ENGLAND, SOUTH -	5	3	4 less.	164	+ 3	23·8	− 1·7	6	10	1451	+ 10	35	0
	6. SCOTLAND, WEST -	7	22	4 more.	207	+21	50·0	+ 0·3	3	5	1279	− 17	31	0
	7. ENGLAND, N.W. - -	7	12	4 more.	195	+21	33·2	+ 1·1	7	14	1219	− 76	29	− 2
	8. ENGLAND, S.W. - -	7	7	3 less.	199	+14	34·2	− 5·5	3	5	1471	− 80	36	− 2
	9. IRELAND, NORTH -	7	15	6 more.	225	+18	35·4	+ 2·5	5	9	1202	− 20	29	0
	10. IRELAND, SOUTH -	6	6	2 less.	208	+16	37·1	+ 1·2	14	23	1339	− 58	32	− 2
	— CHANNEL ISLANDS -	6	2	7 less.	191	− 9	29·4	− 0·6	9	15	1736	− 99	42	− 3

General Remarks.

Weather was very dull and damp, with much fog and mist, during the greater part of the week, but towards its close the air became drier and the mist cleared. Rain fell daily at most of the western and northern stations, but in most of the English districts there was very little until the latter end of the period.

Temperature has been much above the mean, the excess having ranged from 6° over the major part of the Kingdom to 8° in the "Midland Counties" and "England S." The highest of the maxima were recorded at most stations on the 19th, when they ranged from 63° in "Ireland S." (at Dublin) and 62° in the "Midland Counties" to 57° in "Scotland N.," "England E.," and "England S.W." The lowest of the minima, which were registered either at the beginning or end of the week, ranged from 27° in "Scotland E." to 35° in "England S." and to 47° in the "Channel Islands." During the greater part of the period the minima were very high for the time of year.

Rainfall has been more than the mean in "Scotland W." and "Ireland N.," and equal to it in the north and east of Scotland; in all other districts it has been less than the normal.

Bright Sunshine has been very deficient, the percentage of the possible duration having ranged from 5 in "Scotland W." and "England S.W." and 7 in "Scotland N." to 18 in "Scotland E." and 23 in "Ireland S."

Barometer and Wind.—During the earlier days of the week the distribution of pressure was anticyclonic and the gradients slight for South-Westerly or Westerly winds. As the week progressed, however, some large depressions passing eastwards towards Scandinavia caused pressure to decrease considerably over our Islands, and the wind to increase in force. During the 21st a "V"-shaped secondary system passed eastwards over the Kingdom. At the end of the week the barometer was falling quickly, gradients for Westerly to North-Westerly winds had become steep and were increasing, and strong squally winds or gales were blowing very generally.

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III.— DATA from which the SUMMARY on page 277 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ⚓	55	38	50·0	42·1	46·1	+4·9	29	0	6	0·93	−0·06	*	*
	Stornoway	54	36	51·0	41·0	46·0	+5·0	32	3	7	0·48	−0·60	5·9	11
	Wick	54	36	50·0	39·0	44·5	+4·0	30	8	7	0·59	−0·10	*	*
	Lairg ⚓	57	30	50·3	38·6	44·5	+5·3	32	10	7	1·54	+0·62	*	*
	Glencarron ⚓	55	32	51·4	37·8	44·6	+6·2	36	12	7	3·97†	+1·68	*	*
	Fort Augustus ⚓	56	30	52·4	39·3	45·9	+6·2	39	8	7	1·67†	+0·69	2·1	4
	Fort William ⚓	55	34	53·1	41·6	47·4	+6·8	39	1	7	2·91†	+1·06	3·7	7
1. SCOTLAND, E.	Nairn	56	31	52·3	38·4	45·4	+5·5	39	10	5	0·44	−0·09	*	*
	Aberdeen	58	31	51·8	37·9	44·8	+5·0	37	11	5	0·74	−0·01	11·4	22
	Braemar ⚓	54	27	47·9	35·7	41·8	+6·0	17	26	4	1·04	+0·17	13·3‡	25‡
	Ochtertyre ⚓	57	32	50·7	37·7	44·2	+5·5	33	12	6	0·90	−0·09	*	*
	Leith ⚓	60	32	54·1	38·4	46·3	+6·2	45	10	6	0·58	+0·10	3·4‡	6‡
	Marchmont ⚓	57	31	52·3	38·7	45·5	+7·7	38	9	6	0·60	−0·20	10·3	19
2. ENGLAND, N.E.	Alnwick Castle	57	36	53·9	41·3	47·6	+7·5	42	2	4	1·00	+0·25	*	*
	Durham	61	30	53·6	37·9	45·8	+5·7	44	11	4	0·06	−0·64	12·3	22
	Shields	61	34	54·7	40·0	47·4	+6·2	46	6	3	0·10	−0·52	*	*
	Scarborough ⚓	56	37	52·0	40·3	46·2	+5·2	37	5	3	0·06	−0·66	10·8‡	19‡
	York	57	29	54·0	38·0	46·0	+5·2	45	11	5	0·12	−0·39	3·8	7
	Spurn Head	55	38	51·9	41·7	46·8	+5·5	35	1	6	0·12	?	*	*
3. ENGLAND, E.	Hillington ⚓	54	29	51·8	40·0	45·9	+4·9	36	6	3	0·27	−0·36	7·0	12
	Yarmouth	54	35	51·9	40·0	46·0	+4·3	36	6	5	0·43	−0·31	*	*
	Geldeston	56	33	53·9	40·7	46·8	+5·0	39	4	4	0·25	−0·33	5·4	9
	Cambridge	57	36	54·7	42·1	48·4	+7·5	45	0	4	0·13	−0·35	2·9	5
	Rothamsted	55	37	?53·3	?43·8	?48·6	?+8·4	?46	0	5	0·24	−0·38	4·4	7
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	59	31	55·1	38·9	47·0	+5·7	48	9	5	0·15	−0·36	7·6‡	13‡
	Loughborough	59	29	55·6	42·1	48·9	+8·6	48	0	3	0·26	−0·27	5·6‡	10‡
	Cheadle ⚓	59	36	53·1	43·3	48·2	+8·4	43	0	5	0·59	−0·14	*	*
	Churchstoke ⚓	62	31	55·5	42·8	49·2	+9·3	50	0	4	0·19	−0·61	14·8	25
	Hereford ⚓	60	34	56·7	43·6	50·2	+9·3	57	0	3	0·10	−0·45	*	*
	Cirencester	56	34	53·9	41·4	47·7	+7·6	42	2	3	0·15	−0·55	2·6	4
	Oxford	56	38	54·4	44·7	49·6	+8·8	53	0	3	0·13	−0·40	0·3	1
5. ENGLAND, S.	London	57	40	55·9	47·3	51·6	+10·0	67	0	4	0·22	−0·28	2·2‡	4‡
	Strathfield Turgiss ⚓	57	35	55·2	43·6	49·4	+8·3	52	0	4	0·14	−0·44	*	*
	Dungeness	58	39	55·7	47·0	51·4	+8·0	66	0	6	0·40	−0·42	9·2‡	15‡
	Hastings (St. Leonards)	57	39	55·0	47·2	51·1	+7·6	64	0	7	0·38	−0·35	11·1	19
	Southampton	57	42	55·0	46·9	51·0	+8·6	63	0	4	0·22	−0·47	1·5	3
	Hurst Castle	58	41	55·0	47·0	51·0	+7·1	63	0	3	0·26	−0·44	*	*
	Stowell ⚓	56	41	54·1	45·8	50·0	+5·4	56	0	7	0·41	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	?	37	?	42·8	?	?	?	0	7	3·50†	+1·29	*	*
	Glasgow	55	36	51·4	41·0	46·2	+6·3	34	3	6	1·31	+0·43	0·2	0
	Ardrossan	54	38	52·6	42·9	47·8	+7·3	41	0	6	1·54	+0·63	*	*
	Glenlee ⚓	56	30	52·6	38·4	45·5	+7·1	40	10	7	3·18†	+1·80	*	*
	Douglas (Isle of Man)	59	32	54·6	43·3	49·0	+6·9	49	0	7	1·31	+0·23	5·7	10
7. ENGLAND, N.W.	Newton Reigny	58	29	53·4	37·8	45·6	+5·5	43	12	7	0·65	−0·15	9·9	18
	Stonyhurst	56	33	51·8	42·9	47·4	+6·7	38	0	7	3·09	+1·99	2·3	4
	Blackpool ⚓	55	35	52·2	42·5	47·4	+4·4	38	0	6	0·57	−0·23	9·9	19
	Manchester	58	35	52·6	43·2	47·9	+6·4	41	0	7	1·64	+0·79	*	*
	Liverpool Obsy. (Bidston)	59	36	54·7	44·1	49·4	+6·8	52	0	7	0·69	+0·04	*	*
	Llandudno ⚓													
	Holyhead	55	39	54·3	47·1	50·7	+5·4	61	0	7	0·64	−0·24	*	*
8. ENGLAND, S.W.	Llandovery	57	32	54·9	45·1	50·0	+8·0	56	0	7	1·48	+0·30	*	*
	Pembroke	54	46	53·6	49·9	51·8	+7·1	69	0	7	0·62	−0·30	3·1	5
	Arlington (N. Devon)	54	43	53·0	46·6	49·8	+7·8	55	0	7	1·62	+0·19	*	*
	Cullompton ⚓	57	42	55·3	47·4	51·4	+8·4	66	0	5	0·29	−0·51	1·9	3
	Falmouth	56	47	54·5	49·3	51·9	+6·4	69	0	6	0·34	−0·94	6·6	11
	Plymouth	57	44	55·5	49·3	52·4	+7·5	73	0	7	0·35	−0·47	1·4	2
	Prawle Point	55	41	53·9	47·3	50·6	+5·7	60	0	7	0·51	?	*	*
9. IRELAND, N.	Malin Head	54	40	51·9	43·9	47·9	+5·7	41	0	7	1·28	?	*	*
	Londonderry	56	35	53·5	42·9	48·2	+6·2	43	0	7	2·34	+1·33	*	*
	Mullaghmore	57	40	54·3	44·3	49·3	+6·5	51	0	6	1·49	+0·37	*	*
	Belmullet	55	41	53·0	44·9	49·0	+3·8	49	0	7	1·61	?	*	*
	Markree Castle	56	31	54·0	40·8	47·4	+5·5	43	3	7	1·43	+0·62	17·4	13
	Brookeborough	56	31	53·0	40·0	46·5	+5·5	40	6	7	1·78	?	*	*
	Armagh	58	30	54·2	41·1	47·7	+6·0	44	3	6	1·36	+0·72	2·5	4
	Donaghadee	57	32	54·0	39·4	46·7	+4·2	44	7	7	0·99	+0·28	*	*
	Edgeworthstown	58	32	53·6	41·7	47·7	+6·4	41	1	7	0·95	+0·13	*	*
10. IRELAND, S.	Dublin	63	38	56·6	44·2	50·4	+7·4	59	0	5	0·46	−0·06	17·8	31
	Parsonstown	61	32	56·0	44·1	50·1	+8·4	57	0	7	0·45	−0·20	13·4	23
	Kilkenny	60	32	55·7	43·9	49·8	+7·8	55	0	5	0·29	−0·31	*	*
	Waterford	59	31	54·4	44·1	49·3	+5·3	51	0	6	0·48	−0·42	*	*
	Roche's Point	57	41	54·9	46·9	50·9	+5·9	62	0	6	0·77	−0·30	*	*
	Valencia	56	40	54·9	47·0	51·0	+4·0	63	0	7	1·21	−0·08	9·4	16
	Killarney	59	39	?56·7	46·3	?51·5	?+6·4	?67	0	6	0·53	?	*	*
	Foynes	61	41	55·6	46·1	50·9	+7·9	62	0	7	0·64	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	56	47	54·9	50·0	52·5	+4·2	74	0	5	0·11	−0·77	*	*
	Jersey	59	48	56·0	50·7	53·4	+7·9	80	0	6	0·30	−0·68	9·2	15

Stations marked ⚓ are in connection with the Royal Meteorological Society, and those marked ⚓ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

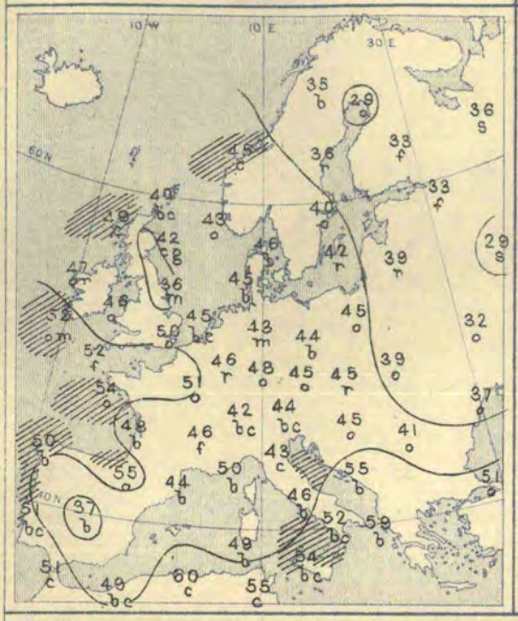
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 16th November.

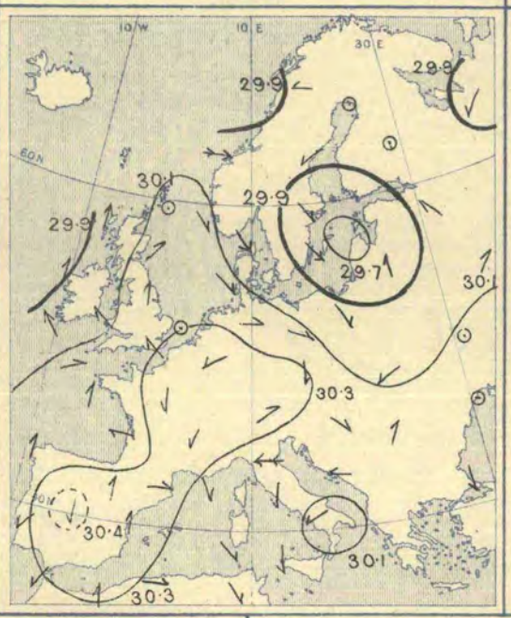
Temperature and Weather.

8 a.m.

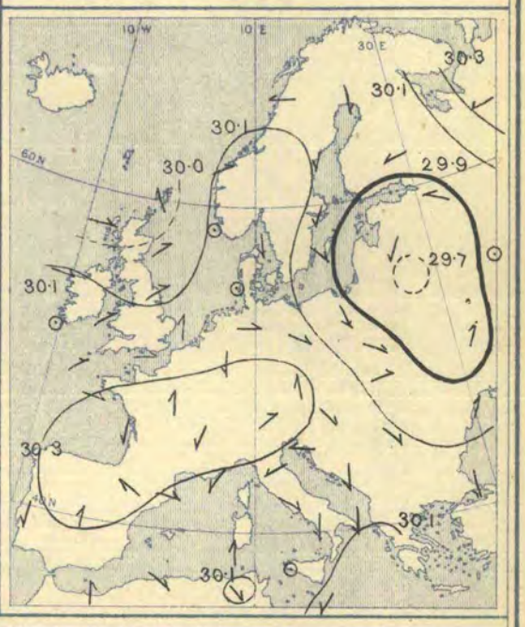


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over the Mediterranean, south-western Europe, Switzerland, and south Germany, also in many parts of Scotland and the extreme north of Norway; dull elsewhere and unsettled in many places. Rain falling at several of the Baltic stations, and also in the extreme west of Ireland; snow at Archangel and Moscow; fog or haze reported in several parts of our Islands. Rain at times during day over the British Islands and north-western Europe generally, but not in large quantities; snow occurring in Finland.

Temperature fallen fast over central Russia, risen over eastern Germany and Poland, changing irregularly elsewhere. Morning readings exceeding 50° over the southern and western parts of the Mediterranean, as well as over the Atlantic coasts of Spain, many parts of France, and the southern and south-western coasts of the British Islands; as high as 60° at Algiers. As low as 28° at Kharkov, 29° at Moscow and Haparanda, 32° at Kiev, and 33° at St. Petersburg, and below 41° over the north and north-east of England. Rising to between 50° and 59° over the British Islands later, and to between 60° and 70° over southern Europe and Algeria.

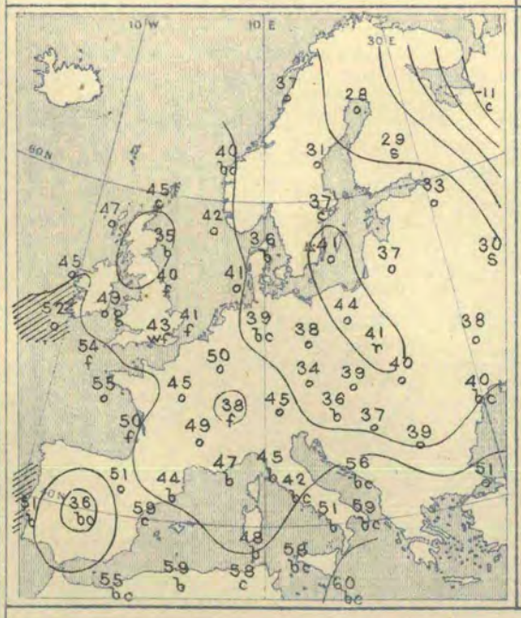
Wind Southerly over the British Islands and on the Atlantic coasts of France and Spain, but not strong; North-Westerly on the eastern shores of the North Sea and the Baltic, Westerly and North-Westerly over north Germany, Southerly over the Baltic Provinces and Gulf of Finland. Very variable elsewhere, and of little strength over the Continent generally. Veering towards West in Ireland and Brittany later, but remaining very light.

Barometer highest, 30·4 ins. to 30·2 ins. in an anticyclone of irregular form, covering the Iberian Peninsula, France, western Germany, and the eastern half of England. Lowest, 29·7 ins. and less in a depression over the Baltic, about 29·9 ins. off our north-western coasts, and rather below 30·1 ins. over the southern parts of Italy. Gradients moderate to slight and very variable. Decided recovery taking place at Irish stations later, but a fall over Norway and the Shetland Islands. Baltic depression moving slowly south-eastwards.

Monday, 17th November.

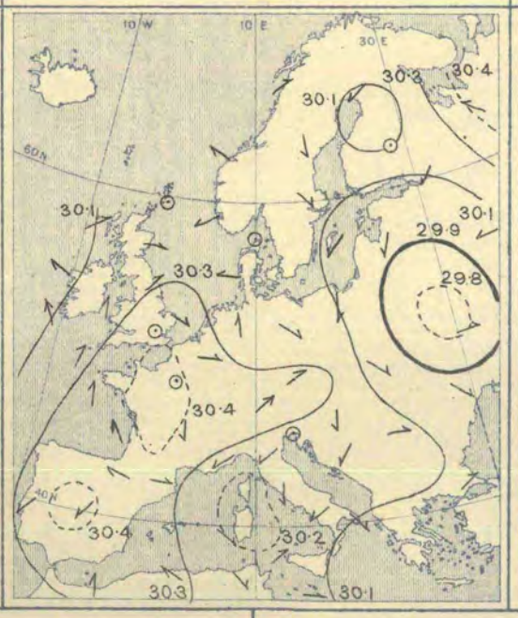
Temperature and Weather.

8 a.m.

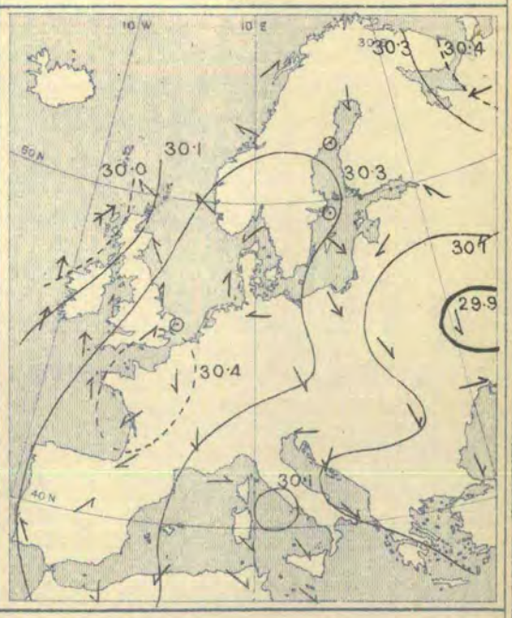


Barometer and Wind.

8 a.m.



6 p.m.



Weather foggy at many of the English and French stations, but fine in Scotland, as well as over Denmark and the greater part of southern Europe. Dull elsewhere, with rain at Warsaw and snow at several of the Russian stations. Rain falling later in most parts of the United Kingdom; fog clearing over England towards night.

Temperature highest, 60° at Malta, 59° at Barcelona, Algiers, and Tunis, and 58° at Palermo and La Calle; above 50° in the south-west of our Islands. Fallen considerably over northern Russia, and as low −11° Fahr. at Archangel; below the freezing point over Finland and central Russia and very little above it over the eastern and central parts of Scotland; as low as 36° even at Madrid. Rising during day to 50° or more in nearly all parts of the United Kingdom, and to between 60° and 70° over southern Europe and Algeria.

Wind Southerly or South-Easterly on the west coasts of our Islands and France, with a moderate gale at Valencia Island, but light from South-West or West in the north and north-east of Great Britain, as well as at most of the German stations. Light from North-West in the south-east of England and also in Italy and Tunis. Cyclonic circulation of light breezes reported over Russia and Sweden. Subsequently increasing to a gale from South-West in the Hebrides.

Barometer highest, 30·4 ins. and upwards over the central parts of France and Spain; high, 30·2 ins. and upwards in a large anticyclone extending from Spain to central Scandinavia. Lowest, 29·8 ins. and less in a well-defined depression lying over the southern part of Russia, 30·1 ins. and less in the extreme west of Ireland. New depression skirting our west coasts later and barometer falling somewhat decidedly in the west and north-west of our Islands; Russian disturbance moving eastwards.

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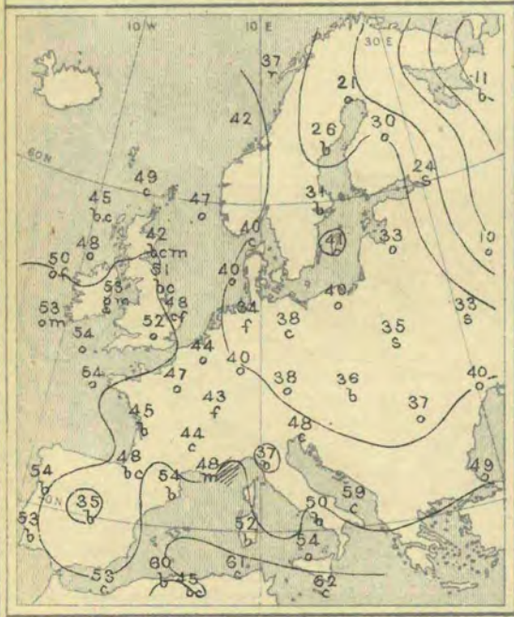
Tuesday, 18th November.

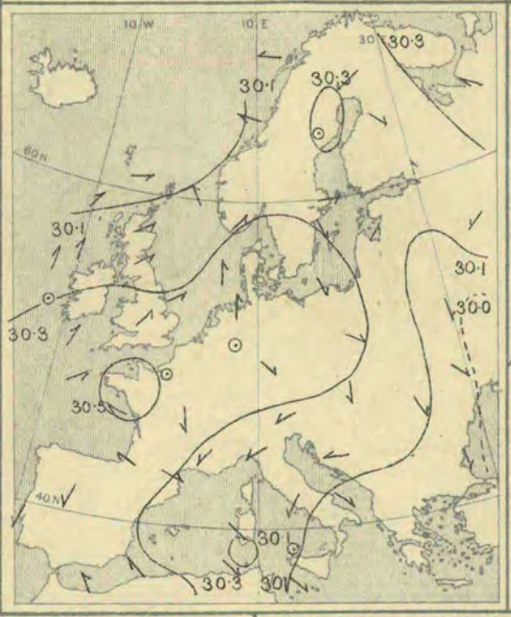
Temperature and Weather.

8 a.m.

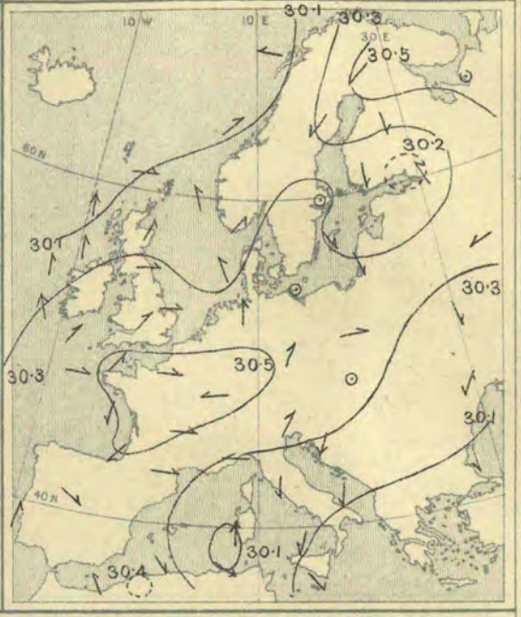


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine over southern Europe and the Mediterranean, as well as in Sweden and the north of our Islands. Cloudy or overcast elsewhere, with wet mists or fogs in many parts of western Europe, and snow at St. Petersburg and Kiev. Slight rain falling during day over England, Ireland, and the north of France, and snow at many of the Russian stations.

Temperature highest, 62° at Malta, 61° at La Calle, 60° at Algiers, and 59° at Brindisi and Tunis; above 50° in many parts of England and Ireland. Lowest, −11° Faht. at Archangel, +10° at Moscow, 21° at Haparanda, 22° at Uleaborg, 24° at St. Petersburg, and 26° at Hernösand; below 40° over central Spain and the north of Italy. Subsequently reaching 55° or a little above in nearly all parts of the United Kingdom, and 65° or more in many parts of southern Europe and Algeria, the highest readings of all being 72° at Croisette and San Fernando and 69° at Marseilles.

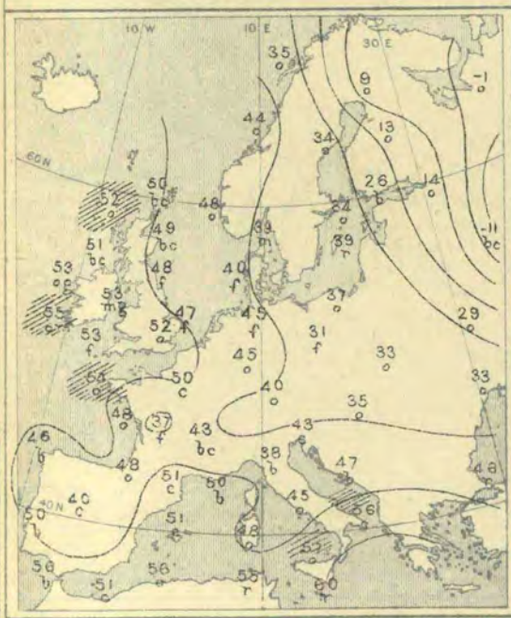
Wind light from the South-Eastward in the west of France, from the South-Westward in our Islands, from the Southward on the eastern shores of the North Sea, and from the Eastward in the north of Scandinavia. Light from the Northward or North-Westward over the greater part of Russia and central and southern Europe, as well as in Tunis, but South-Easterly or Southerly in Algeria. Subsequently backing to the Southward in the extreme west of our Islands and freshening slightly.

Barometer highest, 30·4 ins. to 30·5 ins. or more in an anticyclone stretching from Spain across the Bay of Biscay, France, and the English Channel to the Netherlands and Germany. Lowest, 30·0 ins. and less over the Black Sea and the south of Russia, 30·1 ins. and less in a shallow area lying to the northward of our Islands. Depression moving north-eastwards during day at a considerable distance to the westward of the United Kingdom, and barometer falling slightly on our extreme western and northern coasts.

Wednesday, 19th November.

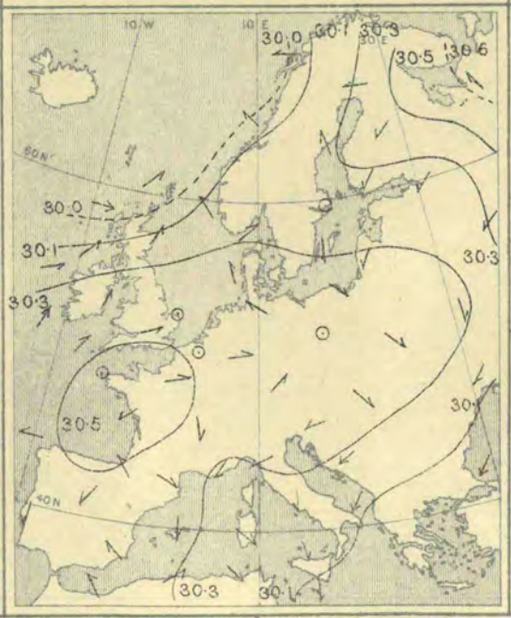
Temperature and Weather.

8 a.m.

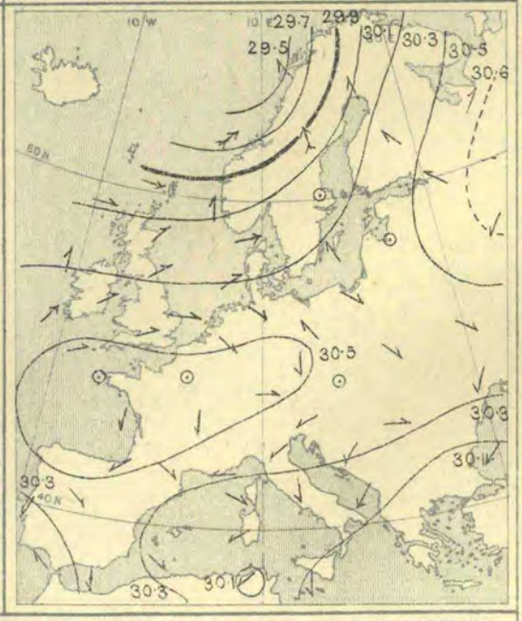


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the east of Scotland and also over the greater part of southern Europe. Dull elsewhere, with mist or fog over the southern parts of the United Kingdom, as well as in Denmark and eastern Germany; rain falling at Constantinople and La Calle. A little rain falling during day in many parts of our Islands, and larger amounts in Scandinavia; snow occurring at Knopio.

Temperature highest, (1) 60° at Malta, 58° at Algiers, and 57° at Palermo and Tunis; (2) 57° at Leith, 56° at Nairn, and 55° at Mullaghmore, Parsonstown, and Valencia Island; above 50° in most parts of the United Kingdom. Lowest, −11° Faht. at Moscow, −1° at Archangel, +4° at Uleaborg, 9° at Haparanda, 13° at Knopio, and 14° at St. Petersburg; below 40° in most parts of central and eastern Europe, and also over northern Italy. Rising during day to 55° or more in many parts of the United Kingdom, the highest readings of all being 61° at Shields and Parsonstown and 60° at Leith. Exceeding 65° over the greater part of Algeria and southern Europe, the highest readings of all being 70° at San Fernando and 68° at Algiers.

Wind light or moderate from the South-Westward in our Islands, from the South-Eastward in the west of Norway, and from the Eastward or North-Eastward over Sweden and northern Russia. Variable in France and Germany, light from the North-Westward over Austria and the south of Russia, moderate from the North-Eastward or Northward over the greater part of southern Europe. North-Westerly in Tunis, South-Easterly or Southerly in Algeria. Subsequently veering to the Westward in the northern parts of the United Kingdom. Increasing to a gale from the Southward or South-Westward at some of the Scandinavian stations.

Barometer highest, 30·6 ins. and upwards in an anticyclone lying over northern Russia, 30·5 ins. and upwards in another system lying over the Channel, the Bay of Biscay, and the western parts of France. Lowest, 30·0 ins. and less in a large area lying to the northward of our Islands and the westward of Norway, and also in another area lying over Asia Minor. Low-pressure system in north subsequently moving eastwards and barometer falling somewhat decidedly in Scandinavia.

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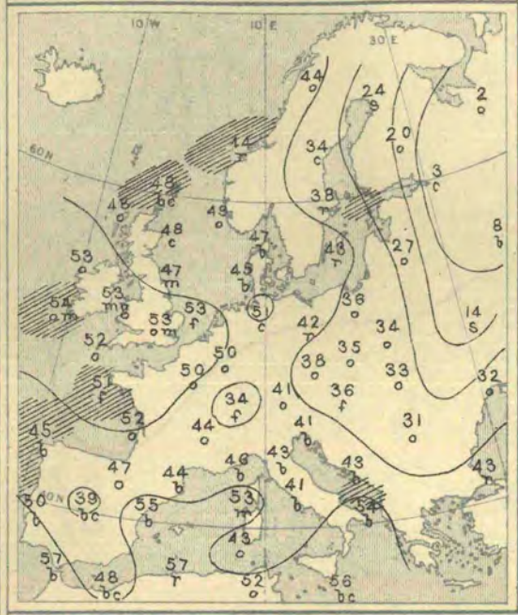
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 20th November.

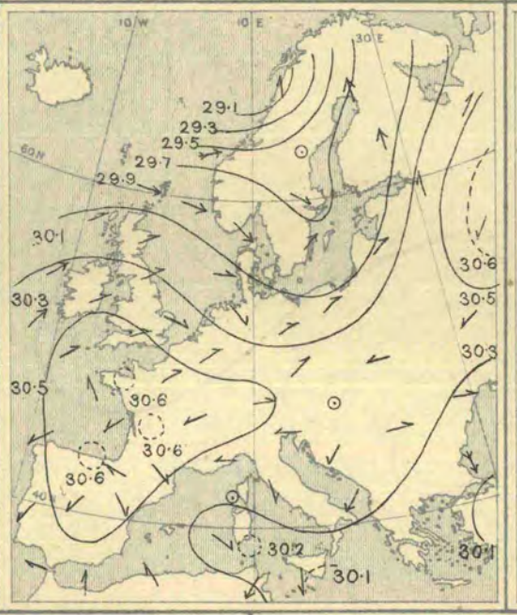
Temperature and Weather.

8 a.m.

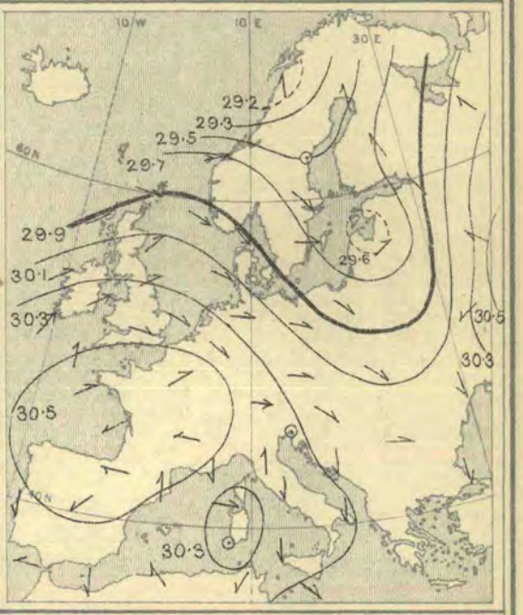


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the north of Scotland, as well as over Denmark and the greater part of southern Europe. Cloudy or overcast elsewhere, with fog or mist in many parts of England, Ireland and France, rain in the west of Norway, the south of Sweden, and the north of Germany, and snow at Uleaborg, Hangö, and Kiev. Rain falling later in the west and extreme north of our Islands—heavily in the west of Ireland. Snow in many parts of Russia and Austria.

Temperature highest, 57° at San Fernando, Algiers, and Tunis, 56° at Malta, and 55° at Barcelona and Prawle Point; above 50° in most parts of England and Ireland. Lowest, 2° at Archangel, 3° at St. Petersburg, 6° at Kharkov, 8° at Moscow, 14° at Kiev, and 20° at Kuopio; below 40° in most parts of Russia and central Europe, as well as over central Spain. Rising during day to 55° or more in most parts of the United Kingdom, and reaching 60° at Parsonstown; thermometer exceeding the latter point in the extreme southern countries of Europe, and also in Algeria, the highest reading of all being 76° at La Calle.

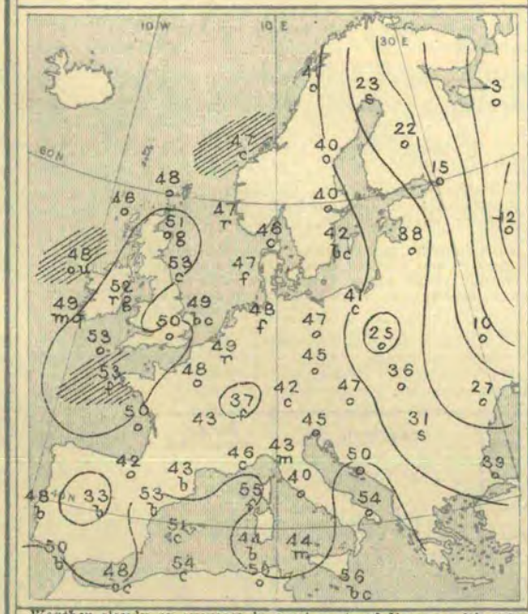
Wind light to fresh from the South-Westward in the west and north of our Islands and from the Westward in the south-east; moderate from the North-Westward in Denmark. Strong from the Westward in the west of Norway, with a gale at Christiansund, and from the Southward over Finland and the Baltic, with a fresh gale at Hangö. Variable in France and also in the south of Russia, moderate from the North-Eastward over the greater part of southern Europe, South-Easterly in Algeria. No important change occurring during day.

Barometer highest, 30·6 ins. and upwards in an anticyclone lying over central Russia, 30·5 ins. and upwards in another system lying over France, the Bay of Biscay, the north of Spain, and the southern parts of England and Germany. Lowest, 29·5 ins. and less, in a rather deep depression lying off the north-west of Norway. Gradients steep over Scandinavia, Finland, and the Baltic. Secondary disturbances approaching the extreme north-west of our Islands later, and barometer falling briskly in north-west.

Friday, 21st November.

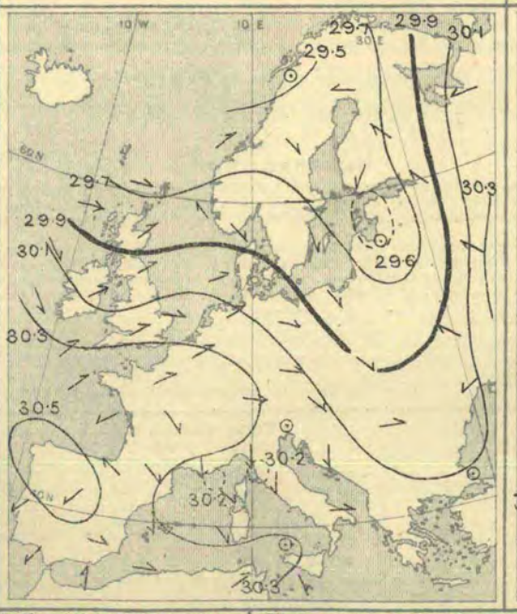
Temperature and Weather.

8 a.m.

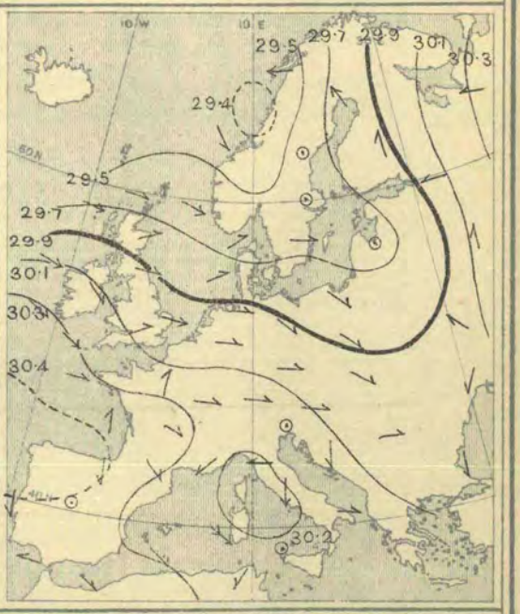


Barometer and Wind.

8 a.m.



6 p.m.



Weather cloudy or overcast in most parts of Europe, with rain in the west and north of our Islands, and also over the Netherlands, and snow in Lapland. Fine in the east of England, as well as in Spain and Algeria. Rain setting in later over the eastern and southern parts of the United Kingdom, but some improvement taking place in west. Thunder heard at Skagen in evening and lightning seen at Wick at night.

Temperature highest, 56° at Malta, 55° at Leith, and 54° at Donaghadee, Brindisi, and Algiers; above 50° in many parts of the United Kingdom, as well as at some of the Mediterranean stations, but as low as 44° at Cagliari and Palermo. Lowest, −12° at Moscow, −3° at Archangel, 0° (zero) at Kharkov, +10° at Kiev, and 15° at St. Petersburg; below 35° over central Spain, and as low as 40° even at Rome. Rising during day to 55° or slightly above in many parts of Great Britain, but remaining below that point at most of the French stations. Exceeding 60° in Spain, Algeria, and the south of Italy, the highest reading of all being 68° at San Fernando.

Wind moderate to fresh from the South-Westward over Great Britain and the North Sea, but from the Northward in Ireland, and also in Sweden, Denmark, Germany, and the Baltic. Light from the South-Eastward in Russia, Northerly in Italy, North-Easterly in Spain, variable in France and Algeria. Subsequently veering to the North-Westward in the west and north of England, but backing to the Westward in Ireland; no important change occurring at Continental stations.

Barometer highest, 30·5 ins. and upwards in an anticyclone lying over Spain, 30·3 ins. and upwards in another system lying over Russia. Lowest, 29·5 ins. and less in a depression lying off the north-west of Norway, 29·6 ins. and less in a shallow system lying over the Gulf of Riga. Shallow "V"-shaped depressions passing eastwards across our Islands during day, and barometer rising on our western coasts.

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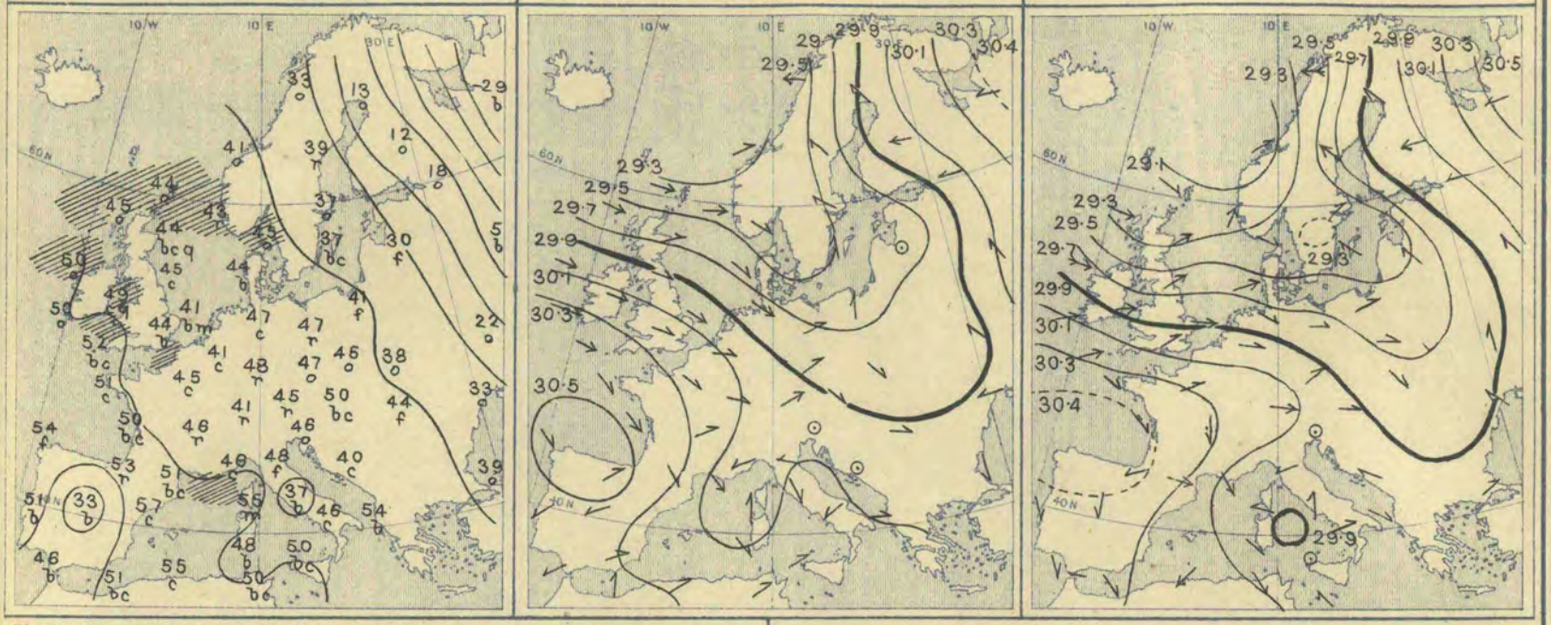
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 22nd November.

Temperature and Weather. — 8 a.m.

Barometer and Wind. — 8 a.m. | 6 p.m.



Weather fine over the greater part of the United Kingdom, as well as in Spain, Italy, and the south of France. Dull and unsettled in most other localities, with rain in Germany and the east of France, and also at some of the Scandinavian stations. Rainy weather setting in later in all parts of the United Kingdom; snow falling at some of the Swedish and Russian stations.

Temperature highest, 57° at Barcelona, 55° at Algiers, 54° at Bilboa, Corunna, and Brindisi, and 53° at Biarritz, Madrid, Leghorn, and Sfax; above 50° in the extreme south-west of England. Lowest, −29° Faht. at Archangel, +5° at Moscow, 11° at Kharkov, 12° at Uleaborg and Kuopio, and 13° at Haparanda; as low as 33° at Madrid. Rising during day to 55° or a little more in many parts of Ireland and England, and to 60° or more in Algeria and the south of Europe, the highest readings of all being 70° at San Fernando and 66° at Lisbon and Palermo.

Wind moderate to strong from the Westward over our Islands and the eas'ern shores of the North Sea, and from the South-Westward in Germany, but South-Easterly in Sweden and Easterly in the north of Russia. Light or moderate from the North-Westward in France, and also in Austria; North-Easterly in Spain, variable in Italy, Southerly in Algeria. Subsequently increasing to a strong breeze or moderate gale from the Westward in many parts of the United Kingdom and to a strong gale from the Eastward in the north of Scandinavia.

Barometer highest, 30·5 ins. and upwards in an anticyclone lying over the southern part of the Bay of Biscay and the north of Spain. 30·4 ins. and upwards over northern Russia. Lowest, 29·3 ins. and less in a depression lying off the west of Norway, shallow secondary disturbances lying over Scandinavia and the Baltic. New depression advancing later to the extreme north of Scotland; secondary systems over northern E.rope becoming deeper.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of the week two large anticyclonic systems have prevailed over Europe—one over the south-western parts of the Continent and the other over central and northern Russia. At the commencement of the period the two systems were divided by a small depression which travelled south-eastwards from the Baltic to the south of Russia, but as this disappeared a "col" was formed over central Europe, and light breezes were experienced, mainly from the South-Westward in the north, but from the North-Eastward in the south.

Towards the middle of the week a series of large depressions began to advance over Scandinavia from the westward and south-westward, and occasioned South-Westerly or Southerly gales in many parts of northern Europe. The effects of these disturbances were at first confined to the most northern regions, but after the 20th the low-pressure systems began to spread south-eastwards, and numerous secondary disturbances were developed in the hollow separating the two anticyclonic areas. Unsettled weather therefore set in over all but the southern countries, with gales from the Westward over our Islands and the North Sea, and from the Eastward or South-Eastward over Sweden and Finland.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
October 11th	Llandudno	63	43	61·5	50·3	55·3	+2·7	97	0	2	0·11	−0·77	?	?
„ 18th	Llandudno	64	45	56·6	46·7	51·5	−0·2	67	0	3	0·39	−0·51	?	?

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 48]. *Third Series.* WEEK ENDING SATURDAY, 29TH NOVEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s*. 0*d*.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 284.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	53	18	40·3	31·9	36·1	3 below.	0	− 9	41	+14	2082	+214	542	−102
	1. SCOTLAND, EAST -	49	10	38·6	28·9	33·8	4 below.	0	−11	57	+25	2430	+ 57	638	− 63
	2. ENGLAND, N.E. - -	55	23	40·9	32·4	36·7	3 below.	0	−13	37	+10	2727	+172	488	−108
	3. ENGLAND, EAST -	61	18	39·6	29·9	34·8	5 below.	0	−15	50	+22	3013	+ 77	591	− 35
	4. MIDLAND COUNTIES	59	20	39·1	29·9	34·5	5 below.	0	−15	53	+22	2954	+ 57	603	− 41
	5. ENGLAND, SOUTH -	59	16	40·2	30·0	35·1	6 below.	0	−20	48	+26	3285	+ 85	386	− 77
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	59	22	41·6	32·3	37·0	3 below.	0	−15	35	+12	2621	+108	394	−111
	7. ENGLAND, N.W. -	57	18	41·5	32·8	37·2	4 below.	0	−16	34	+13	2340	+153	363	−103
	8. ENGLAND, S.W. -	57	15	41·1	32·5	36·8	6 below.	0	−26	36	+25	3112	− 3	290	+ 15
	9. IRELAND, NORTH -	57	16	42·3	32·6	37·5	4 below.	2	−16	33	+12	2750	+137	348	− 93
	10. IRELAND, SOUTH -	59	17	44·2	33·1	38·7	4 below.	6	−20	33	+16	3141	+151	272	− 33
	— CHANNEL ISLANDS -	56	16	45·6	36·3	41·0	5 below.	10	−27	23	+19	3546	+102	94	− 3

Rainfall. **Bright Sunshine.**

	DISTRICTS. (See p. 284.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	5	10	2 more.	247	+36	55·4	+ 3·5	9	17	1012	−183	24	− 4
	1. SCOTLAND, EAST -	4	6	1 less.	202	+24	31·4	+ 1·2	12	23	1244	−116	30	− 2
	2. ENGLAND, N.E. - -	6	14	7 more.	175	+ 1	23·7	− 2·2	10	19	1235	− 6	29	0
	3. ENGLAND, EAST -	6	16	10 more.	173	− 6	22·6	− 1·7	6	10	1548	+ 38	37	+ 1
	4. MIDLAND COUNTIES-	5	8	2 more.	169	− 4	21·6	− 6·0	7	12	1357	+ 3	32	0
	5. ENGLAND, SOUTH -	4	5	1 less.	168	+ 3	24·3	− 1·8	7	13	1458	+ 8	35	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	3	10	3 less.	210	+19	51·0	0·0	13	25	1292	− 10	31	0
	7. ENGLAND, N.W. - -	3	10	2 more.	198	+19	34·2	+ 1·2	20	36	1239	− 63	29	− 2
	8. ENGLAND, S.W. - -	3	4	6 less.	202	+12	34·6	− 6·2	30	52	1501	− 60	36	− 1
	9. IRELAND, NORTH -	4	10	2 more.	229	+16	36·4	+ 2·6	18	34	1220	− 11	29	0
	10. IRELAND, SOUTH -	4	6	2 less.	212	+14	37·7	+ 0·9	18	31	1357	− 49	32	− 1
	— CHANNEL ISLANDS -	6	10	0 (average).	197	− 9	30·4	− 0·6	18	30	1754	− 94	42	− 2

General Remarks.

Weather was mild and rainy at the commencement of the period, but soon became very cold over the entire Kingdom, with occasional falls of snow. Over the south-eastern counties and at Jersey the snowfall was very heavy.

Temperature was high on the first day of the week, when the maxima in most districts ranged between 55° and 61°. Subsequently the thermometer fell rapidly and became extremely low for the time of year—at first over Scotland and afterwards over England and Ireland. The absolute minima (recorded on the 27th in the north and on the 29th in the south and west) were as low as 10° in "Scotland E." (at Braemar), 15° in "England S.W.," and 16° in "England S.," "Ireland N.," and the "Channel Islands." In the other districts the lowest readings varied from 18° to 23°. During the 28th the thermometer in London did not rise above 25°, and the day was the coldest for November on record. The averages for the week were 6° below the mean in "England S." and "S.W.," 5° below in "England E.," the "Midland Counties," and the "Channel Islands," and 4° below in most other districts.

Rainfall has been less than the mean in the east and west of Scotland, the south and south-west of England, and in the south of Ireland, and has just equalled it in the "Channel Islands;" in all other districts, however, an excess is shown, that in the north-east and east of England being very large. The heaviest falls of snow recorded were at Yarmouth and Dungeness; at the former station the fall on the 26th yielded 0·93 in. of water in the gauge, and at the latter station the aggregate fall for the 26th and 27th yielded 1·50 ins.

Bright Sunshine has been very little prevalent in the "Wheat-producing Districts," but in the "Grazing Districts" a fair amount has been recorded. In "England S.W." the percentage of the possible duration was as high as 52.

Barometer and Wind.—As the week commenced the barometer was highest in the south and lowest in the north, the gradients steep, and strong winds or gales from the Westward very general. By the 24th, however, the distribution had changed to a northerly type, with steep gradients and strong winds on all our coasts. After this time till towards the end of the week an anticyclone stretched from Scandinavia to Scotland and the winds became moderate from the North-Eastward. In the south-east, however, some irregularities in pressure were shown and the wind occasionally rose to a strong breeze or moderate gale. At the end of the period the barometer was falling decidedly in the north-west, and the wind there had shifted to the Southward.

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III.—DATA from which the SUMMARY on page 283 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	44	35	41·7	36·7	39·2	−1·6	0	20	4	1·73	+0·74	*	*
	Stornoway ℌ	49	32	43·7	35·1	39·4	−1·1	5	25	6	0·54	−0·56	7·6	16
	Wick ℌ	46	32	41·7	34·7	38·2	−1·8	0	27	3	0·36	−0·34	*	*
	Lairg ℌ	44	19	37·1	28·1	32·6	−3·6	0	66	5	1·74	+0·80	*	*
	Glencarron ℌ	48	21	39·0	29·4	34·2	−3·5	0	55	5	1·41†	−0·88	*	*
	Fort Augustus ℌ	52	18	39·6	28·9	34·3	−4·5	0	54	5	0·60†	−0·42	8·7	17
	Fort William ℌ	53	22	39·6	30·5	35·1	−5·3	0	48	5	0·75†	−1·20	9·7	19
1. SCOTLAND, E.	Nairn ℌ	44	19	39·7	30·1	34·9	−4·1	0	50	3	0·11	−0·41	*	*
	Aberdeen ℌ	43	23	37·9	31·4	34·7	−4·1	0	51	5	0·49	−0·26	12·9	26
	Braemar ℌ	48	10	34·6	22·5	28·6	−5·9	0	94	3	0·14	−0·68	13·2‡	26‡
	Ochtertyre ℌ	47	19	40·3	26·7	33·5	−4·0	0	60	4	0·45	−0·54	*	*
	Leith ℌ	49	26	41·3	32·6	37·0	−2·3	0	35	5	0·80	+0·32	11·2‡	22‡
	Marchmont ℌ	47	23	38·0	29·9	34·0	−3·2	0	56	5	1·55	+0·75	9·8	19
2. ENGLAND, N.E.	Alnwick Castle ℌ	49	26	40·4	31·7	36·1	−2·9	0	41	6	1·25	+0·50	*	*
	Durham ℌ	55	23	40·1	29·6	34·9	−4·4	0	50	6	1·70	+1·00	9·8	18
	Shields ℌ	49	29	40·7	33·4	37·1	−3·2	0	34	6	1·43	+0·82	*	*
	Scarborough ℌ	55	31	41·8	34·3	38·1	−1·9	0	27	7	1·30	+0·59	13·0‡	24‡
	York ℌ	55	24	40·7	31·0	35·9	−3·9	0	43	6	1·00	+0·48	7·8	14
	Spurn Head ℌ	53	29	41·4	34·4	37·9	−2·5	0	29	6	1·71	?	*	*
3. ENGLAND, E.	Hillington ℌ	56	18	40·2	29·7	35·0	−4·8	0	49	6	1·34	+0·72	7·4	13
	Yarmouth ℌ	56	24	39·6	31·7	35·7	−4·8	0	44	7	2·84	+2·12	*	*
	Geldeston ℌ	59	20	41·1	30·3	35·7	−4·8	0	44	6	2·68	+2·06	2·2	4
	Cambridge ℌ	61	20	39·7	29·0	34·4	−5·5	0	53	6	0·77	+0·30	5·2	9
	Rothamsted ℌ	57	20	? 37·6	? 28·9	? 33·3	? −6·0	0	? 61	6	0·38	−0·22	8·1	14
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	58	21	40·3	26·3	33·3	−7·3	0	61	6	1·14	+0·62	5·4‡	10‡
	Loughborough	59	25	39·6	31·4	35·5	−4·0	0	46	6	1·18	+0·65	4·4‡	8‡
	Cheadle ℌ	56	23	39·7	30·3	35·0	−3·9	0	49	5	1·40	+0·67	*	*
	Churchstoke ℌ	56	20	39·1	29·4	34·3	−4·7	0	54	3	0·95	+0·19	3·8	7
	Hereford ℌ	58	22	39·4	32·5	36·0	−3·8	0	42	4	0·27	−0·28	*	*
	Cirencester	57	20	37·9	28·9	33·4	−6·0	0	60	4	0·29	−0·41	13·5	24
	Oxford	56	21	38·0	30·4	34·2	−6·1	0	55	5	0·20	−0·31	6·8	12
5. ENGLAND, S.	London	59	21	39·3	30·7	35·0	−5·8	0	49	5	0·26	−0·23	3·0‡	5‡
	Strathfield Turgiss ℌ	58	18	38·9	28·3	33·6	−6·6	0	59	3	0·18	−0·37	*	*
	Dungeness	55	17	42·6	29·0	35·8	−7·0	2	46	4	1·93	+1·13	3·6‡	6‡
	Hastings (St. Leonards)	56	16	39·4	30·3	34·9	−7·8	0	50	6	0·99	+0·29	8·5	15
	Southampton	59	16	41·6	29·1	35·4	−5·7	0	46	3	0·06	−0·64	14·2	24
	Hurst Castle	56	20	41·6	32·9	37·3	−5·8	0	33	3	0·12	−0·56	*	*
	Stowell ℌ	57	16	38·3	29·7	34·0	−6·3	0	56	4	0·19	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	59	26	42·2	32·7	37·5	−3·1	1	33	5	2·08†	−0·13	*	*
	Glasgow	51	22	39·6	31·3	35·5	−4·2	0	46	4	0·78	−0·11	7·7	15
	Ardrossan	48	25	41·0	33·1	37·1	−2·6	0	34	2	0·72	−0·18	*	*
	Glenlee ℌ	53	22	41·0	29·2	35·1	−2·9	0	48	2	0·88†	−0·50	*	*
	Douglas (Isle of Man)	56	28	44·0	35·3	39·7	−1·9	6	25	3	0·47	−0·59	18·8	34
7. ENGLAND, N.W.	Newton Reigny	53	18	38·8	26·6	32·7	−6·6	0	65	5	0·72	−0·08	14·1	27
	Stonyhurst	54	25	41·9	31·4	36·7	−3·1	0	37	2	1·65	+0·55	21·2	39
	Blackpool ℌ	52	26	39·4	31·4	35·4	−6·6	0	46	3	1·91	+1·12	23·5	43
	Manchester	57	25	41·7	32·0	36·9	−3·7	0	36	3	1·01	+0·16	*	*
	Liverpool Obsy. (Bidston)	55	27	39·9	33·6	36·8	−4·7	0	36	2	0·70	+0·07	*	*
	Llandudno ℌ	57	30	44·2	36·8	40·5	−2·5	6	20	2	0·55	−0·24	?	?
	Holyhead	57	30	44·9	37·7	41·3	−3·4	8	17	5	0·66	−0·22	*	*
8. ENGLAND, S.W.	Llandovery	57	17	40·1	29·6	34·9	−6·1	0	50	4	1·03	−0·17	*	*
	Pembroke	55	28	42·9	36·0	39·5	−4·5	3	22	2	0·26	−0·66	34·3	60
	Arlington (N. Devon)	53	24	39·0	33·0	36·0	−5·2	0	42	2	0·52	−0·90	*	*
	Cullompton ℌ	56	15	39·1	30·5	34·8	−7·3	0	50	3	0·23	−0·57	19·9	34
	Falmouth	56	23	42·1	34·0	38·1	−6·9	0	28	2	0·42	−0·82	36·4	62
	Plymouth	57	22	41·2	33·1	37·2	−6·8	0	34	2	0·37	−0·45	30·6	52
	Prawle Point	55	19	43·1	31·0	37·1	−6·9	3	40	3	0·25	?	*	*
9. IRELAND, N.	Malin Head	52	32	43·7	36·9	39·6	−1·7	5	14	4	0·85	?	*	*
	Londonderry	54	25	41·1	32·9	37·0	−4·2	0	35	4	0·98	−0·02	*	*
	Mullaghmore	54	28	43·7	35·7	39·7	−2·3	5	23	4	1·05	−0·04	*	*
	Belmullet	54	26	44·7	35·0	39·9	−4·4	8	27	4	1·65	?	*	*
	Markree Castle	56	16	42·1	28·4	35·3	−5·9	0	48	4	0·84	+0·04	15·9	29
	Brookeborough	54	16	42·7	26·7	34·7	−5·5	2	54	4	1·30	?	*	*
	Armagh	57	21	42·5	30·4	36·5	−4·6	1	41	5	0·90	+0·27	20·9	38
	Donaghadee	56	30	43·9	37·3	40·6	−1·3	5	18	3	0·76	+0·08	*	*
	Edgeworthstown	56	21	40·9	29·7	35·3	−5·2	0	47	5	0·84	+0·02	*	*
10. IRELAND, S.	Dublin	58	26	44·2	34·8	39·5	−2·7	6	27	7	1·10	+0·57	11·3	20
	Parsonstown	57	20	41·7	31·6	36·7	−4·1	0	37	3	0·54	−0·11	16·8	30
	Kilkenny	58	23	42·9	33·3	38·1	−2·9	3	31	3	0·42	−0·20	*	*
	Waterford	59	28	44·0	35·1	39·6	−3·4	6	26	3	0·21	−0·69	*	*
	Roche's Point	59	27	45·3	36·0	40·7	−3·3	9	24	3	0·33	−0·74	*	*
	Valencia	56	27	46·7	35·7	41·2	−4·9	13	25	6	0·82	−0·47	24·9	44
	Killarney	59	17	46·7	28·0	37·4	−6·9	13	53	4	0·86	?	*	*
	Foynes	56	26	42·4	30·6	36·5	−6·0	1	40	4	0·72	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	55	29	45·1	38·0	41·6	−6·2	9	17	5	0·52	−0·37	*	*
	Jersey	56	16	46·0	34·6	40·3	−4·5	11	29	6	1·38	+0·39	18·1	30

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked S with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

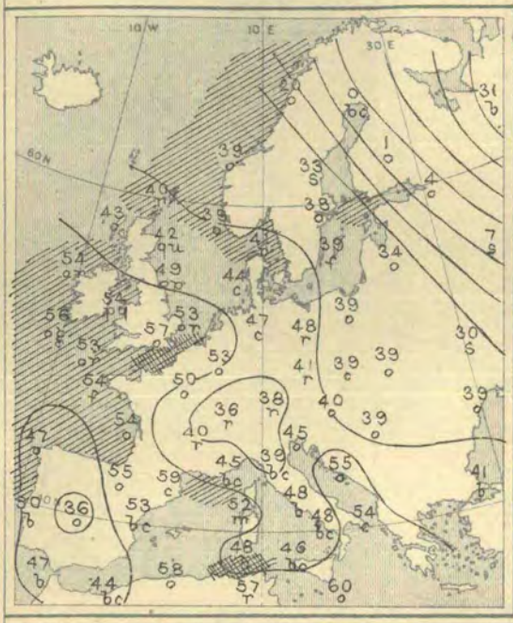
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

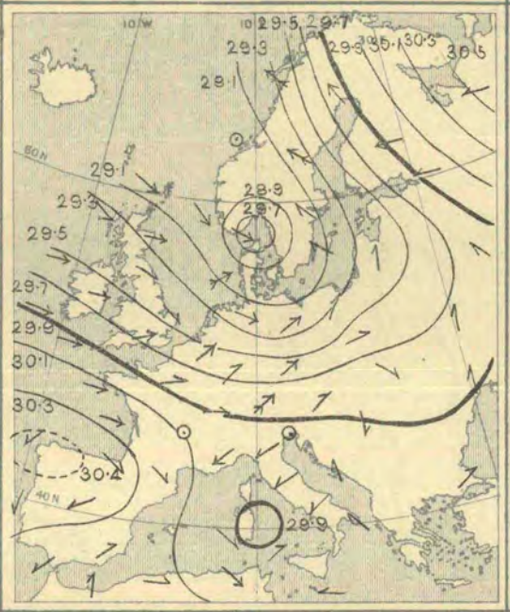
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 23rd November.

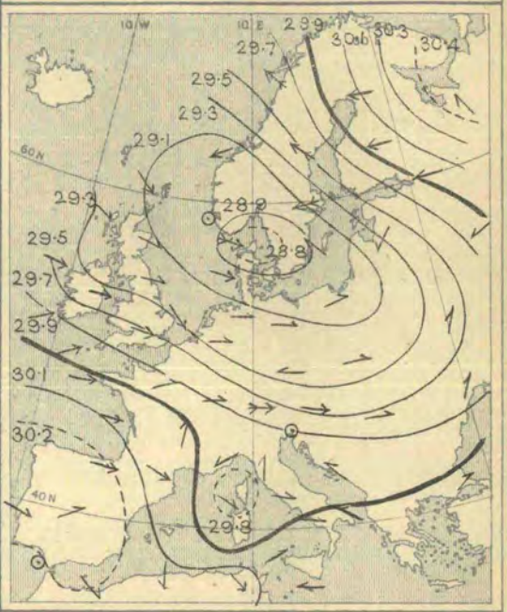
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather very rough and unsettled in all but the extreme southern countries, with rain in many parts of the United Kingdom, France, Germany, and Denmark, and snow over central Russia and the Gulfs of Finland and Bothnia. Fine in Italy and the southern parts of France and Spain, but raining in Tunis. Heavy rainfall over the Netherlands, Germany and the Baltic, North Sea and British Islands—snow at several northern stations; squalls frequent and some of them severe.

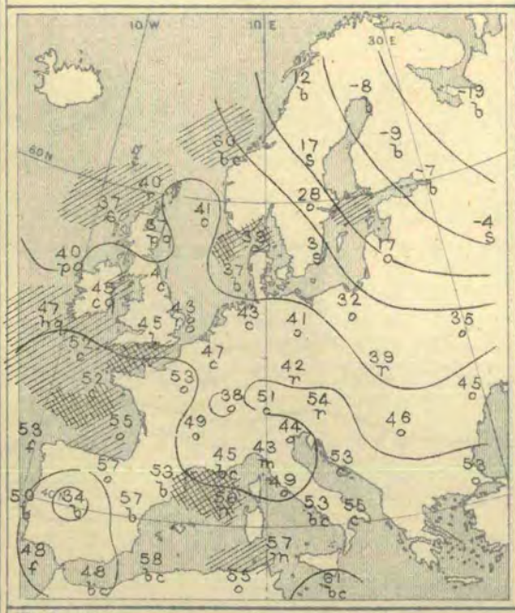
Temperature very high for the time of year over the southern parts of the United Kingdom, readings there being above 50° in most places, and as high as 57° at Roche's Point, Cambridge, and in London, and 56° at Valencia Island and Jersey. Below 50° at several of the Mediterranean stations, but nearly 58° at Algiers and 60° at Malta. Lowest, −3° Faht. at Archangel, −1° at Uleaborg, 0° (zero) at Haparanda, +1° at Kuopio, 4° at St. Petersburg, and 7° at Moscow. Rising during day to 59° at Loughborough, Roche's Point, and in London, and to 61° at Cambridge. Air very soft.

Wind strong to a gale from the Westward over the greater part of Ireland, England, and the Channel, as well as in Denmark and the Netherlands; moderate to strong from the Westward or North-Westward in Scotland. Southerly and South-Westerly in Germany. Strong Easterly gales over Finland and the northern parts of Scandinavia, light from the North-Eastward in Spain and Italy, moderate from the North-Westward in Algeria and the south of France. No important change occurring during day beyond some increase in the force of the gales.

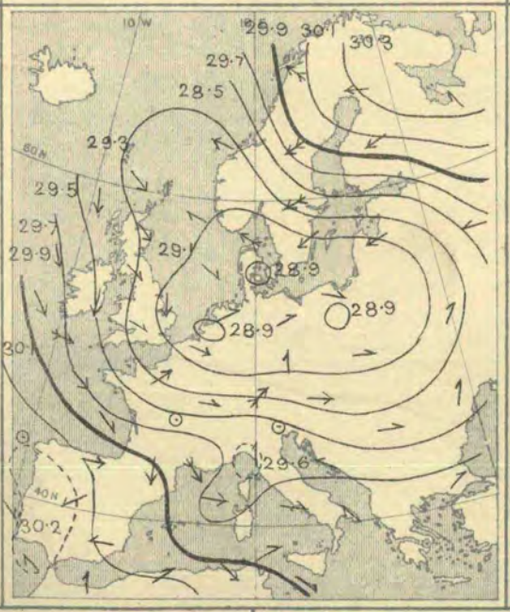
Barometer highest, 30·5 ins. and upwards to 30·0 ins. over northern Russia, 30·3 ins. and more to 30·2 ins. over Spain, the south-west of France, and the southern parts of the Bay of Biscay. Lowest, 28·6 ins. to 29·0 ins. in a depression having its centre near Christiania. Gradients steep over the greater part of western Europe, and very steep over Finland and the north of Scandinavia. Depression subsequently moving slowly south-eastwards, but well-marked secondary disturbance appearing over the west of Scotland.

Monday, 24th November.

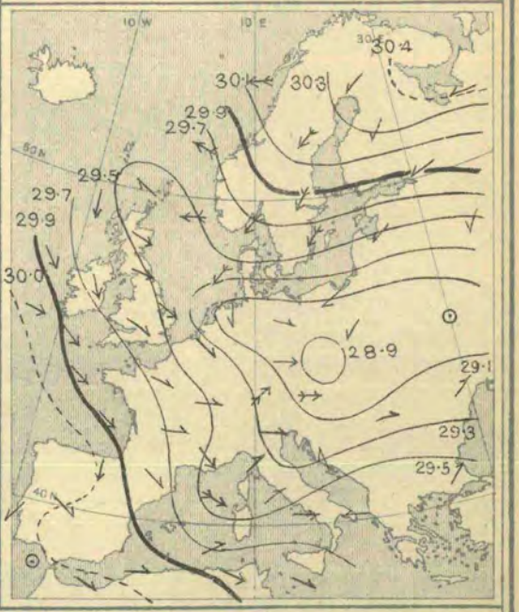
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather very unsettled generally, squalls of cold rain prevalent in many parts of our Islands, snow in the north of Scotland, in several parts of Sweden, and at Moscow, continuous rain in many parts of Germany. Temporary bright intervals reported in many localities. Showers of cold rain and hail experienced over our Islands and France during day, as well as in Sweden, the Netherlands, Germany, and France, but amounts not large, as on Sunday; thunder and lightning in several parts of the English Channel.

Temperature falling fast over northern and north-western Europe, rising over the Mediterranean and south-eastern Europe. Morning readings exceeding 50° at the south-eastern, southern, and western coast stations only, and exceeding 40° in the west and south of the British Isles. Much lower elsewhere; ranging zero to *minus* 19° Faht. over Finland, northern and central Russia, much below the freezing point over the eastern and northern parts of the Baltic, and as low as 36° to 37° in the north-east of Scotland. Continuing to fall over our Islands during day, but rising to between 60° and 71° in the south of France and at some other southern districts.

Wind fresh to a gale from North and North-West in our Islands; blowing a gale from North-West and West in the Channel; South-Westerly and Westerly, strong to a gale, over western and southern Germany, and blowing a strong gale from the Eastward over northern Europe. The Easterly wind spreading to our north-east coasts later, and blowing a gale over Caithness. Strong West-North-West winds or gales on our other coasts.

Barometer highest, 30·4 ins. to 29·4 ins. over Scandinavia, Lapland, Finland, and the north of Russia, and 30·2 ins. to 29·8 ins. over south-western Europe and the west of Ireland. Lowest, below 29·0 ins. over the greater part of the North Sea, the Netherlands, Denmark, and north Germany, and below 28·9 ins. in three distinct minima—one over Holland, another over the Sound, and the third near Wilna. Rising quickly in our Islands later, falling over Germany; local disturbances appearing off the north-east of Scotland at night.

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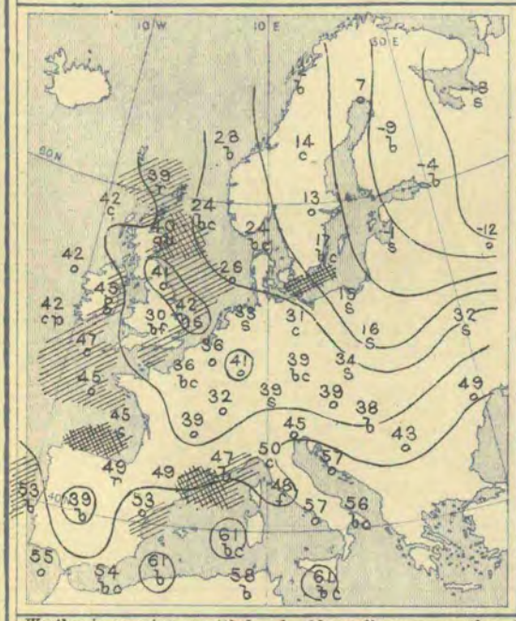
Tuesday, 25th November.

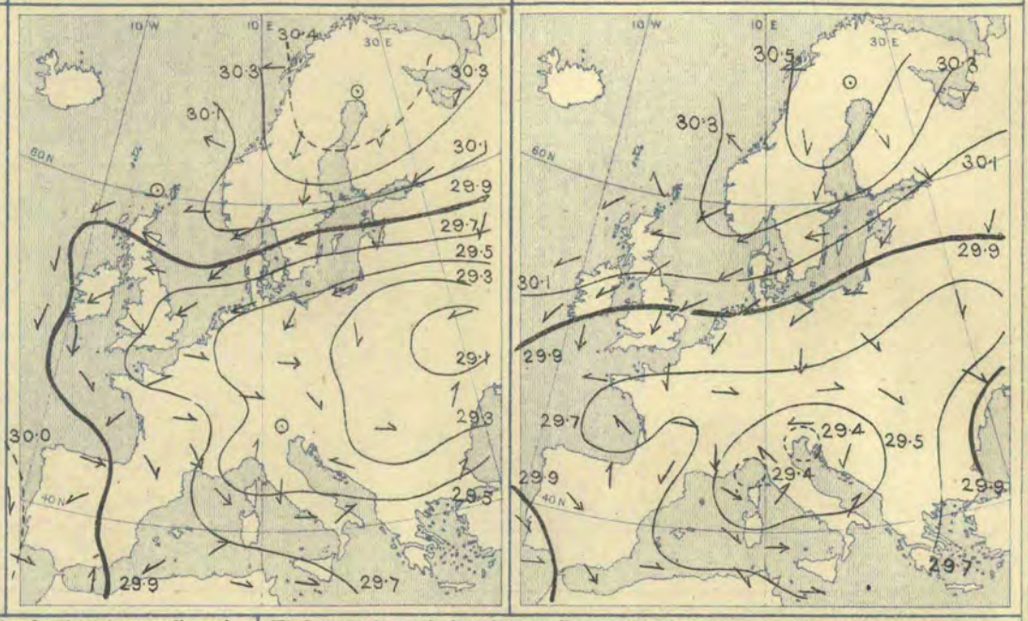
Temperature and Weather. 8 a.m.



Weather in morning unsettled and cold, squally on our north-east and east coasts generally, and locally in some other parts of the Kingdom, with passing showers of cold rain or snow. Snow falling in several parts of Poland and southern Russia. Sky clear in many other places, but fog or haze prevailing in some localities. Rain or snow falling in many places later—heavily at Sumburgh Head, and in considerable quantities at Biarritz, Brest, and Munich.

Temperature again fallen over the British Isles and greater part of Europe. Morning readings exceeding 50° on the southern and south-eastern shores of the Mediterranean only (61° at Malta and Algiers), and exceeding 40° over the western parts of the British Isles and the western and southern parts of France, lower elsewhere. Lowest, 0° Faht. to −18° over the northern half of Russia, +1° at Riga, 7° at Uleaborg, 13° at Stockholm, and much below 32° all over Scandinavia and Denmark. Not rising to 50° in any part of our Islands during day, but exceeding 60° in many parts of Italy and the south of France, and reaching 70° in Algeria.

Barometer and Wind. 8 a.m. and 6 p.m.

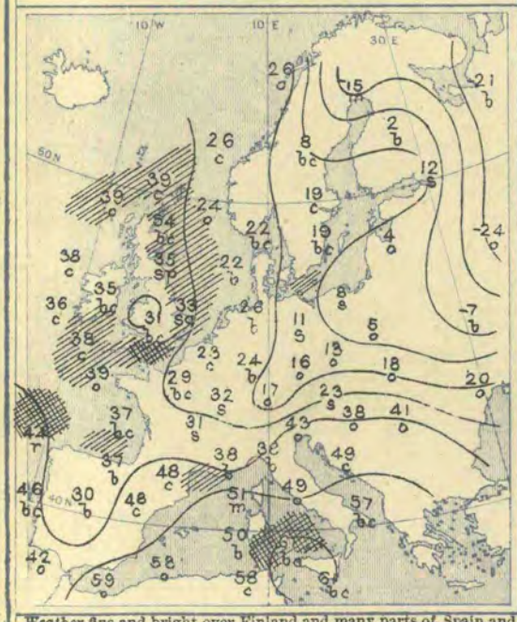


Wind strong to a gale from between East and North-East over the Gulf of Finland, the Baltic, the eastern shores of the North Sea, and our own north-eastern and eastern stations; Northerly and more moderate in the west, North-Westerly in the Channel and north of France. Westerly and North-Westerly (a gale) in the south-west and south of France, Westerly over Austria, Southerly in the south of Russia. Veering to North-East all over our Islands later, and blowing very strongly in the Channel; falling light in the north of Scotland.

Barometer highest, 30·4 ins. to 30·0 ins. over northern Europe, 30·0 ins. to 29·8 ins over Spain, the Bay of Biscay, and west of Ireland. Lowest, 29·0 ins. to 29·3 ins. in a depression over southern Russia, and somewhat low in secondary "V"-shaped disturbances over Germany and the Netherlands and England. Rising in our Islands and northern and eastern Europe all day, but falling in the south-west of France. Russian depression filling up, new one forming over the northern parts of the Adriatic and the Gulf of Genoa.

Wednesday, 26th November.

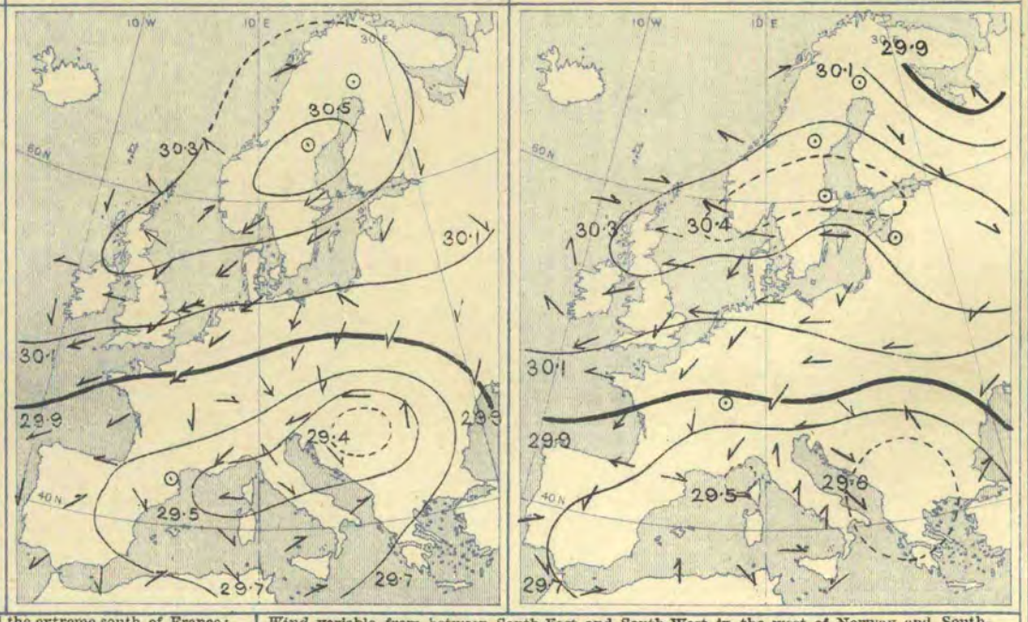
Temperature and Weather. 8 a.m.



Weather fine and bright over Finland and many parts of Spain and the extreme south of France; fair, as a whole, over Scandinavia, Scotland, and Ireland, but unsettled and variable over England, central and western Europe—clear in some places, dull and rainy in others; snow on our east coast and in Germany. Heavy snow over the south-eastern counties of England and some parts of Brittany later, and a considerable quantity at Leith; amounts reported slight elsewhere, considerable rain at Rome.

Temperature low generally except in the extreme south. Morning values 58° to 61° over the southern parts of the Mediterranean, but below 40° in nearly all other parts of Europe, and as low as zero to minus 24° Faht. over central and northern Russia, +2° to 12° over Finland, the Baltic Provinces, and Poland, 11° at Berlin, 23° at Brussels, 28° at Oxford, 29° at Paris, 31° in London, and 32° at Parsonstown. Remaining low all day, except in Sicily and the south of Italy, where maxima ranged from 68° to 73°; following night very cold over England, Germany, and France.

Barometer and Wind. 8 a.m. and 6 p.m.



Wind variable from between South-East and South-West in the west of Norway and South-Easterly over Scotland; chiefly North-Easterly elsewhere; strong over the western Baltic, strong to a gale on our eastern and southern coasts. Air very keen and searching. Wind moderating on some parts of our east and south coasts later and becoming light and variable in Scotland; continuing very strong over the western parts of the Baltic.

Barometer highest, 30·5 ins. and more to 30·1 ins. in a large anticyclone lying over the northern and north-western parts of Europe and the British Isles. Lowest, 29·4 ins. to 29·5 ins. in a complex depression lying over the northern parts of the Mediterranean and Italy, with the southern parts of Austria, Servia, Bosnia, and Dalmatia. Gradients moderate. Secondary disturbances appearing off our south-east coasts later; barometer beginning to fall again in the extreme north and north-west; anticyclone decreasing slightly in intensity, and depression in south breaking into two parts and moving southwards.

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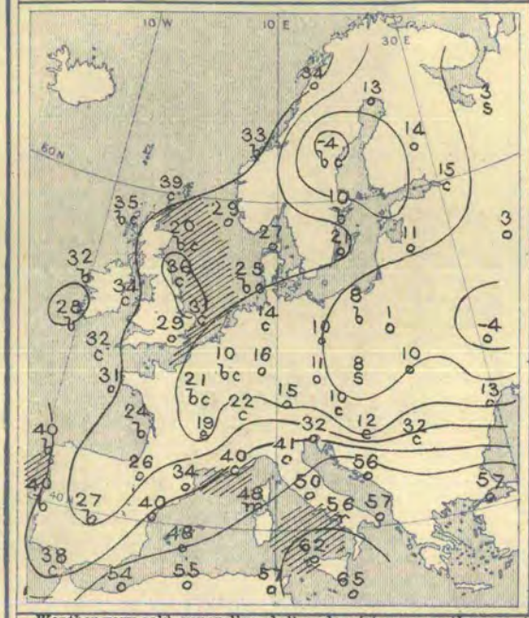
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 27th November.

Temperature and Weather.

8 a.m.

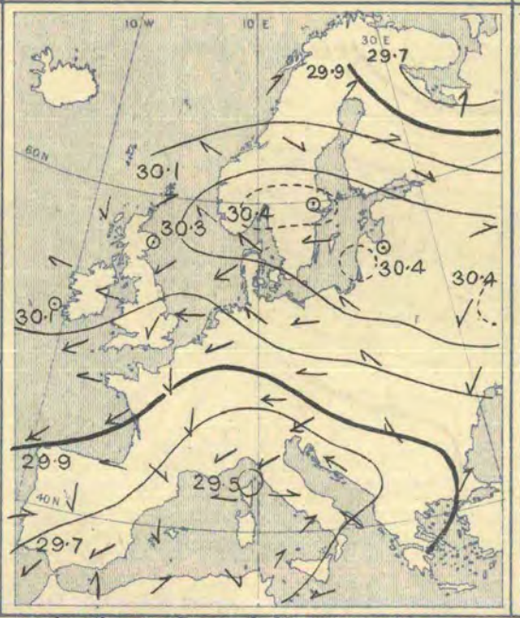


Weather very cold generally; dull and quiet over northern, eastern, and south-eastern Europe, bright in the north and west of our Islands and on the Atlantic coasts of France and Spain, cloudy and unsettled over England and the north of France, with heavy snow on our south-eastern coasts and at several of the Channel stations. Snow also in the south of France. Fall of snow extending northwards and westwards later—amounts large at Jersey, over our northern counties, at Nice, and Monaco. Considerable rain over western Algeria.

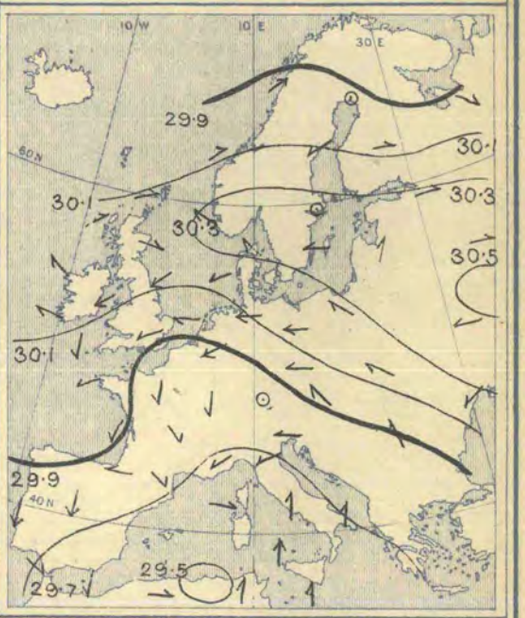
Temperature very low for the time of year, 10° to 14° below average over our eastern and midland counties, and still more deficient in the south-west. Rising over the Baltic and northern and central Russia, falling over south-eastern Europe. Morning readings as low as −7° at Kharkov, −4° at Kiev and Hernösand, +1° at Warsaw, 3° at Moscow and Archangel, 7° to 11° over central and eastern Germany; much below freezing point over nearly the whole of northern and western Europe. Above 40° on the Portuguese coast and at several of the Mediterranean stations, 62° at Palermo, 65° at Malta, and 57° at Brindisi and La Calle. Not rising above 26° at Paris and 30° in London all day; remaining below 20° in many parts of Germany.

Barometer and Wind.

8 a.m.



6 p.m.



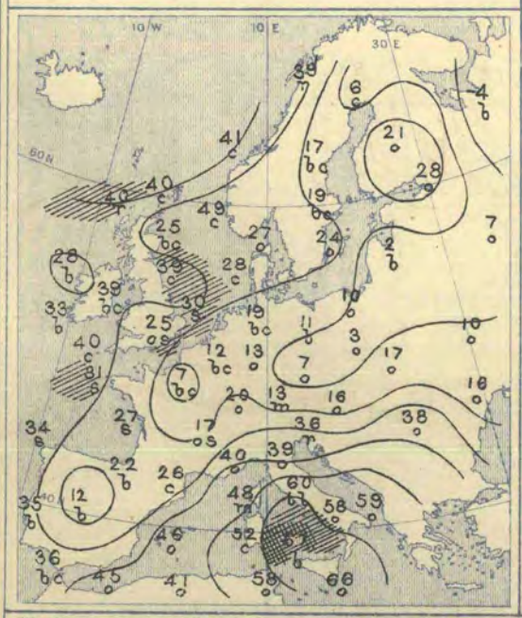
Wind shifted to West and South-West in the north of Europe and the extreme north of Scotland, still Northerly to Easterly in many other places, strong to a moderate gale at Fanö, Münster, and on our east coast, fresh to light elsewhere. Wind very keen. Becoming somewhat variable over the Channel later and blowing freshly. Moderating somewhat on the eastern side of the North Sea.

Barometer highest, 30·4 ins. and more to 30·2 ins. in a large anticyclonic system covering central Russia, the Baltic, Scandinavia, and the northern parts of the North Sea and British Isles. Lowest, (1) 29·6 ins. and less in a large and complex, but not deep, depression lying over the Mediterranean and northern Italy, and below 30·0 ins. in secondary disturbances over north-east France and south-east England; (2) 29·7 ins. and less in another depression over the White Sea. Secondary disturbances off our south-east coasts moving westwards very slowly and increasing slightly in depth.

Friday, 28th November.

Temperature and Weather.

8 a.m.

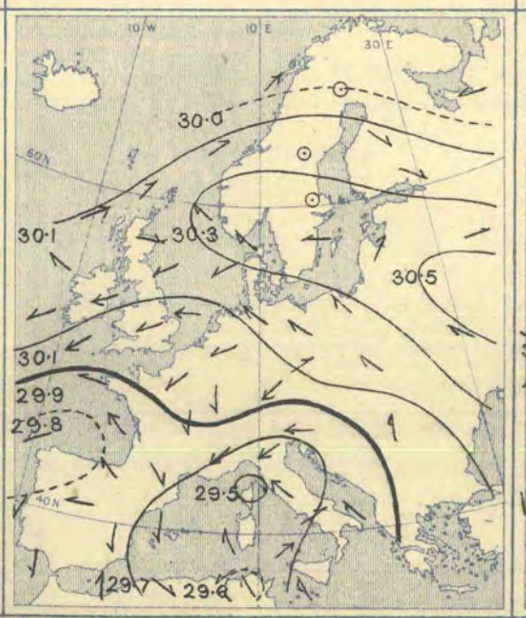


Weather in morning dull and gloomy over eastern, south-eastern, and central Europe; fair, as a whole, in the north-west and north, and bright in many places. Dry snow falling very generally over the eastern, midland, and southern parts of England and several parts of France—the amounts measured being large at Jersey, Spurn Head, Yarmouth, Chassiron, and Nice. Heavy falls of rain at Trieste and Florence.

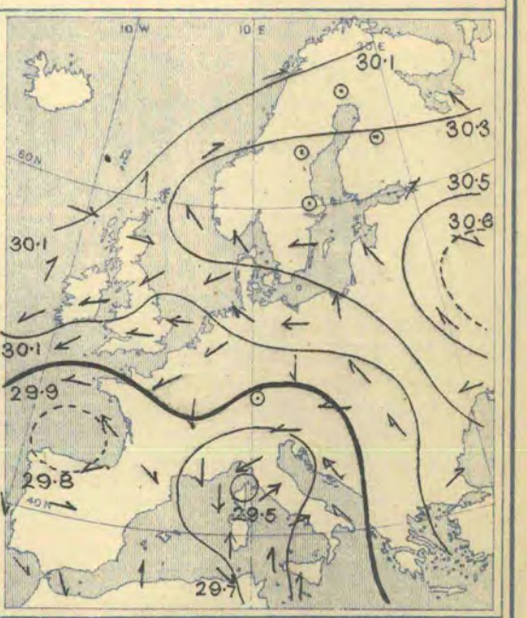
Temperature still very low for time of year and beginning to fall again over northern Europe, but to rise over Scotland and central and south-eastern Europe. Morning readings −4° Fahr. at Archangel and −3° at Kharkov; above zero elsewhere, but as low as 2° at Riga, 3° at Warsaw, 5° at Memel, 7° at Prague and Paris, 11° at Berlin, 12° at Brussels, 17° at Lyons, 21° at Parsonstown, and 25° in London. At Haparanda it was 6°. The highest values were 67° at Palermo, 66° at Malta, 60° at Rome, and ranging from 40° to 58° on the Mediterranean coasts generally. Changing little and very irregularly over our Islands later.

Barometer and Wind.

8 a.m.



6 p.m.



Wind still South-Westerly over the northern parts of Scotland and the north-west of Norway, and in the Gulf of Finland. Mainly Easterly (South-East to North-East) over the Baltic, central, western, and southern Europe, but of less strength than recently observed. Cyclonic circulation of strong winds prevalent, however, over the northern and eastern parts of the Mediterranean. The South-Westerly wind in the north beginning to spread to Ireland later, with rising thermometer, and the Easterly current decreasing in strength in many places.

Barometer highest, 30·6 ins. and more to 30·4 ins. in an anticyclone lying over the southern half of Russia, and 30·3 ins. to 30·2 ins. in a "col" extending from Russia across the Baltic, the southern parts of Scandinavia, Scotland, and Ireland, to the Atlantic. Lowest, 30·0 ins. and less over Lapland, the Kola Peninsula, and the White Sea, 29·8 ins. and less in a depression over the north-west of Spain, and 29·6 ins. and less in another over Corsica, the Gulf of Genoa, and north of Italy. Not much change apparent later, but inclined to fall on our west and north-west coasts.

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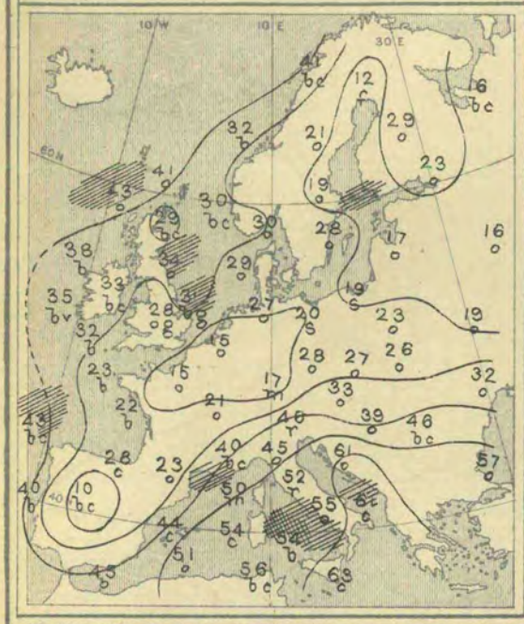
Saturday, 29th November.

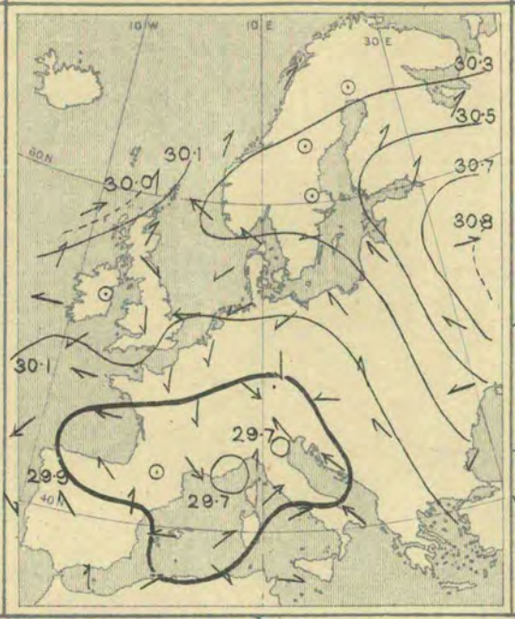
Temperature and Weather.

8 a.m.

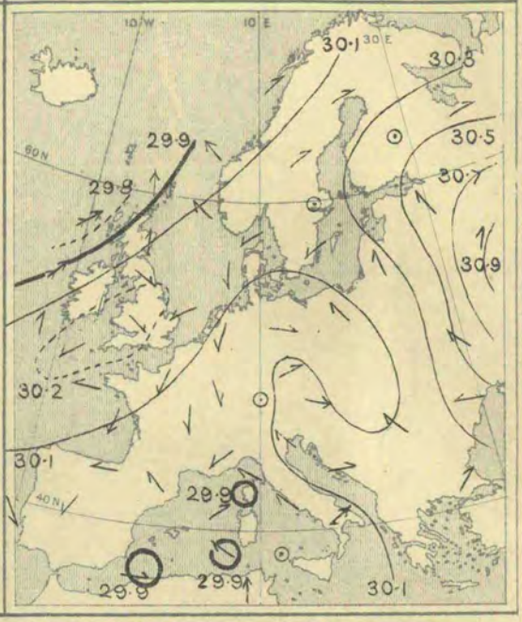


Barometer and Wind.

8 a.m.



6 p.m.



Weather dull and quiet over south-eastern, eastern, and northern Europe, foggy at the northern extremity of the Gulf of Bothnia, changeable and unsettled elsewhere, with snow in several parts of north Germany and England, and in some parts of France. Rain setting in later over the western and northern parts of the United Kingdom, and slight showers of snow occurring in different parts of England and on the Continent.

Temperature less low than of late, but changing irregularly. Still exceeding 60° at Brindisi and Malta, and also at Lesina, and exceeding 50° over the south-eastern parts of the Mediterranean generally. Much lower elsewhere—as low as (1) 10° at Madrid, 15° at Paris and Brussels, 17° at Le Mans, 20° at Berlin, 21° at Prawle Point and Parsonstown, 28° at York and in London; (2) 13° at Kharkov, 16° at Moscow and Archangel. Rising decidedly over Ireland and Scotland later, falling over England at night, after a slight "giving" of frost during daytime.

Wind still mainly Easterly (South-East to North-East) over eastern, central, and western Europe; Southerly, light, over Finland and Norway, Southerly to South-Westerly on our north-western and northern coasts. Cyclonic circulation of moderate winds over the Mediterranean. The Southerly and South-Westerly winds becoming general over Ireland and Scotland later and increasing to a gale in places; wind becoming variable elsewhere.

Barometer highest, 30·8 ins. to 30·4 ins. over central and south-western Russia, 30·2 ins. and more to 30·1 ins. over Ireland, England, and the North Sea. Lowest, about 29·7 ins. in a depression over the Gulf of Genoa, and below 29·8 ins. off our own north-western coasts. Falling steadily in the west and north of our Islands later, rising over Russia, and also over England. Secondary anticyclone in latter region becoming well developed.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

At the commencement of this week the weather was rough and stormy over Europe generally, the winds being strong, warm, and mainly Westerly over the western countries, while strong Easterly gales with intensely cold weather prevailed over northern Europe and the Baltic. These conditions were caused by a deep depression, which at 8 a.m. on Sunday lay over Denmark and the North Sea, separating a large anticyclonic system over Spain from another lying over Lapland, Finland, and northern Russia. In the course of the next day or two the disturbance moved south-eastwards to Germany and Austria and filled up; in its rear the barometer rose, the northern high-pressure system spread westward to our Islands and their neighbourhood, and afterwards moved southwards over Europe. This change brought about a spell of the coldest weather which has ever been experienced over the British Islands and western Europe at this time of year, while over northern and central Russia the thermometer rose. The coldest days of all over France and the south-east of England were Thursday and Friday, temperature charts for which days are very striking. [Still lower values than those recorded on this map are spoken of in the Newspapers, but details as to the character of the instruments and their exposure are not supplied.]

At the close of the week the high-pressure system had reached central Russia and increased in intensity. The weather was becoming less cold over western Europe, and in the north-western parts of the British Islands and western Norway mild South-Westerly breezes were setting in.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March, April-June, and July-September,** *price* 4d. *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, March, and April,** *price* 6d. *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 49]. *Third Series.* WEEK ENDING SATURDAY, 6TH DECEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10*s.* 0*d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 290.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	56	23	45·5	36·9	41·4	2 above.	10	+ 2	22	− 7	2092	+221	564	−121
	1. SCOTLAND, EAST	57	22	45·0	37·3	41·3	4 above.	8	− 1	20	−15	2438	+ 60	658	− 85
	2. ENGLAND, N.E.	51	21	42·8	34·5	38·8	1 below.	2	− 9	28	− 3	2729	+167	516	−123
	3. ENGLAND, EAST	44	13	38·5	28·3	33·6	6 below.	0	−12	59	+27	3013	+ 68	650	− 21
	4. MIDLAND COUNTIES	46	18	40·0	31·7	36·1	3 below.	0	−13	41	+ 6	2954	+ 48	644	− 51
	5. ENGLAND, SOUTH	47	20	40·8	31·5	36·3	5 below.	0	−18	40	+15	3285	+ 73	426	− 74
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	58	29	46·1	38·7	42·5	3 above.	17	+ 4	9	−17	2638	+118	403	−142
	7. ENGLAND, N.W.	51	22	43·3	35·7	39·6	1 below.	4	−10	24	+ 1	2849*	+159	383*	−118
	8. ENGLAND, S.W.	51	20	43·3	34·9	39·3	3 below.	4	−18	27	+12	3116	− 14	317	+ 16
	9. IRELAND, NORTH	55	31	47·0	39·2	43·2	2 above.	20	+ 5	8	−17	2770	+148	356	−126
	10. IRELAND, SOUTH	57	21	47·4	38·9	43·3	1 below.	22	− 1	9	−12	3163	+160	281	− 56
	— CHANNEL ISLANDS	50	17	44·8	35·7	40·4	6 below.	8	−25	25	+20	3554	+ 86	119	+ 13

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 290.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	5	7 less.	251	+34	55·9	+ 2·9	5	11	1017	−189	24	− 4
	1. SCOTLAND, EAST	6	8	1 more.	208	+25	32·2	+ 1·3	3	6	1247	−125	29	− 3
	2. ENGLAND, N.E.	6	4	2 less.	181	+ 2	24·1	− 2·5	1	2	1236	− 13	29	0
	3. ENGLAND, EAST	2	1	5 less.	175	− 9	22·7	− 2·2	3	5	1551	+ 31	37	+ 1
	4. MIDLAND COUNTIES	4	2	7 less.	173	− 4	21·8	− 6·4	0	0	1357	− 6	32	0
	5. ENGLAND, SOUTH	2	2	5 less.	170	+ 1	24·5	− 2·3	5	8	1463	+ 5	35	+ 1
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	4	13	3 more.	214	+19	52·3	0·0	3	6	1295	− 18	30	− 1
	7. ENGLAND, N.W.	4	5	3 less.	201*	+18	34·5*	+ 0·7	1	3	1239*	− 70	29	− 2
	8. ENGLAND, S.W.	5	12	1 more.	207	+13	35·8	− 6·0	2	5	1503	− 73	35	− 2
	9. IRELAND, NORTH	5	6	2 less.	234	+17	37·0	+ 2·4	8	16	1228	− 16	29	0
	10. IRELAND, SOUTH	5	13	4 more.	217	+15	39·0	+ 1·4	3	5	1360	− 59	32	− 1
	— CHANNEL ISLANDS	6	10	0 (average).	203	− 8	31·4	− 0·5	12	20	1766	− 94	42	− 2

General Remarks.

Weather has been rather mild over Scotland and in the north of Ireland, with overcast skies and a good deal of rain, while in most parts of England the conditions have been cold, very gloomy, and generally dry. In the south-west of England, however, heavy rain fell towards the end of the week.

Temperature has been from 2° to 4° above the mean in Scotland, and 2° above in the north of Ireland. In all the other districts it has been below, the deficit having ranged from 1° in "Ireland S." and over the north of England to 5° in "England S.," and to 6° in "England E." and the "Channel Islands." The sharp frosts reported last week continued over the more southern, south-eastern, and central districts until December 1st or 2nd, the lowest minima being 13° in "England E.," 17° in the "Channel Islands," 18° in the "Midland Counties," and 20° in "England S." and "S.W." In Scotland the lowest readings were recorded on the 6th, and varied from 22° to 29°. The highest of the maxima occurred on December 1st in Ireland and Scotland, and ranged from 55° to 58°; but in England, where they were registered on the 4th, they varied between 44° and 51°.

Rainfall has been more than the mean in the east and west of Scotland, the south of Ireland, and the south-west of England, and equal to it in the "Channel Islands;" in all other districts it has been less than the normal, especially over eastern, central, and southern England.

Bright Sunshine has been unusually deficient. In the "Midland Counties," the percentage of the possible duration is less than 1, while in the other districts it ranges from only 2 in "England N.E." and 3 in "England N.W." to 8 in "England S.," 16 in "Ireland N.," and 20 in the "Channel Islands."

Barometer and Wind.—At the commencement of the week a "V"-shaped low-pressure system was moving north-eastwards over our extreme north-western coasts, causing strong Southerly winds or gales in the west and north and moderate South-Westerly breezes elsewhere. As this disturbance passed off the barometer rose steadily in the north and fell decidedly in the south, and during the remainder of the period moderate gradients for North-Easterly or Easterly winds were prevalent. The wind blew strongly at times in the east and south, but no definite depressions appeared over us.

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III.—DATA from which the SUMMARY on page 289 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	53	33	45·1	38·6	42·0	+1·4	9	10	4	0·29	−0·69	*	*
	Stornoway	53	26	45·4	35·3	40·6	+0·4	10	28	4	0·46	−0·71	9·3	20
	Wick	54	35	46·6	38·6	42·8	+3·0	20	10	6	0·20	−0·52	*	*
	Lairg §	56	23	44·6	34·1	39·6	+1·4	7	31	5	0·16	−0·79	*	*
	Glencarron §	52	26	44·3	35·6	40·1	+2·7	6	25	3	1·24†	−1·05	*	*
	Fort Augustus §	54	24	46·3	36·8	41·7	+3·0	12	22	5	0·40†	−0·69	2·1	4
	Fort William §	53	31	46·1	39·1	42·7	+2·3	17	8	4	0·75†	−1·33	4·9	10
1. SCOTLAND, E.	Nairn	57	29	45·4	37·3	41·5	+2·6	10	20	4	0·33	−0·17	*	*
	Aberdeen	55	29	46·1	38·3	42·4	+4·2	18	10	7	1·20	+0·45	5·4	11
	Braemar §	52	31	42·3	37·2	39·9	+5·5	1	18	6	§ 0·28	§ −0·52	0·0‡	0‡
	Ochtertyre §												*	*
	Leith	57	28	47·6	37·4	42·7	+3·7	24	13	4	1·10	+0·63	4·8‡	10‡
	Marchmont §	50	22	43·7	36·3	40·2	+3·0	5	23	7	1·12	+0·32	1·3	3
2. ENGLAND, N.E.	Alnwick Castle	51	35	44·6	38·1	41·5	+2·9	7	17	7	0·68	−0·07	*	*
	Durham	49	21	42·9	33·0	38·2	−0·9	3	34		0·62	−0·09	1·2	2
	Shields	49	25	45·0	33·7	39·6	−0·4	8	33	6	0·38	−0·23	*	*
	Scarborough ℳ	45	27	41·0	35·4	38·3	−0·9	0	26	6	0·36	−0·34	? ‡	? ‡
	York	46	25	41·4	32·6	37·2	−2·0	0	34		0·39	−0·15	0·7	1
	Spurn Head	45	29	41·6	34·3	38·1	−1·6	0	27		0·19	?	*	*
3. ENGLAND, E.	Hillington ℳ	44	14	38·2	28·9	33·7	−5·5	0	58	4	0·08	−0·53	3·1	6
	Yarmouth	43	22	39·1	30·4	34·9	−5·0	0	50	2	0·12	−0·59	*	*
	Geldeston	43	13	38·7	25·6	32·4	−7·7	0	67	2	0·13	−0·47	6·7	12
	Cambridge	44	15	39·1	27·1	33·3	−6·6	0	61	1	0·13	−0·32	0·1	0
	Rothamsted	43	18	? 37·6	? 29·7	? 33·8	? −5·1	0	? 57	2	0·07	−0·53	1·0	2
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	44	28	40·1	32·6	36·5	−3·7	0	39	5	0·23	−0·29	0·7‡	1‡
	Loughborough	44	25	41·0	31·9	36·6	−2·5	0	38	5	0·19	−0·33	1·0‡	2‡
	Cheadle ℳ	42	24	39·5	31·8	35·8	−2·8	0	43	4	0·17	−0·57	*	*
	Churchstoke ℳ	46	22	40·8	31·8	36·5	−2·6	0	39	4	0·21	−0·51	0·0	0
	Hereford ℳ	44	26	40·2	32·6	36·6	−2·8	0	38	5	0·36	−0·19	*	*
	Cirencester	43	18	? 39·3	? 29·0	? 34·4	? −4·8	0	? 53	2	0·19	−0·49	0·0	0
	Oxford	43	27	39·3	32·4	36·0	−4·1	0	42	2	0·04	−0·46	0·0	0
5. ENGLAND, S.	London	45	22	41·1	30·4	36·0	−4·3	0	42	2	0·09	−0·39	0·2‡	0‡
	Strathfield Turgiss ℳ	44	20	40·9	30·2	35·8	−4·2	0	43	2	0·11	−0·41	*	*
	Dungeness	43	23	40·6	29·1	35·1	−7·0	0	48	2	0·26	−0·52	10·7	19
	Hastings (St. Leonards)	41	25	39·3	32·4	36·0	−6·1	0	42	2	0·25	−0·45	7·4	13
	Southampton	43	25	40·9	33·4	37·3	−3·0	0	33	2	0·12	−0·58	0·0	0
	Hurst Castle	43	22	42·3	34·0	38·3	−4·4	1	29	3	0·15	−0·52	*	*
	Stowell ℳ	47	22	40·2	30·8	35·7	−4·4	0	44	4	0·34	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	58	32	48·4	38·4	43·6	+3·2	26	10	4	0·86†	−1·34	*	*
	Glasgow	52	34	45·5	39·1	42·4	+2·8	15	8	4	1·03	+0·11	0·2	0
	Ardrossan	51	32	45·3	38·4	42·0	+2·6	9	10	3	0·88	−0·02	*	*
	Glenlee §	52	29	45·1	37·2	41·3	+3·0	9	20	4	1·83†	+0·45	*	*
	Douglas (Isle of Man)	51	37	46·0	40·4	43·3	+1·9	16	4	7	1·75	+0·72	6·0	11
7. ENGLAND, N.W.	Newton Reigny	50	22	44·0	34·4	39·4	+0·4	6	29	4	0·17	−0·63	1·7	3
	Stonyhurst	44	27	42·0	34·3	38·3	−0·9	0	26	4	0·15	−0·95	0·8	2
	Blackpool ℳ	44	29	41·9	35·9	39·0	−2·9	0	21	3	0·58	−0·20	1·3	3
	Manchester	45	26	42·6	34·6	38·8	−1·4	2	28	4	0·22	−0·62	*	*
	Liverpool Obsy. (Bidston)	48	27	42·9	34·3	38·8	−2·3	3	29	5	0·40	−0·21	*	*
	Llandudno ℳ													
	Holyhead	51	33	46·4	40·4	43·5	−0·8	17	4	4	1·69	+0·81	*	*
8. ENGLAND, S.W.	Llandovery	45	21	42·3	32·7	37·7	−3·0	1	34	6	0·30	−0·90	*	*
	Pembroke	51	31	45·3	39·0	42·3	−1·5	15	8	7	1·29	+0·38	4·3	8
	Arlington (N. Devon)	43	? 26	41·4	33·7	37·7	−3·5	0	30	4	0·55	−0·87	*	*
	Cullompton ℳ	44	20	40·9	31·2	36·2	−5·8	0	41	5	0·46	−0·34	0·0	0
	Falmouth	47	28	45·1	38·0	41·7	−3·2	9	17	6	1·47	+0·26	0·4	1
	Plymouth	46	24	44·0	34·1	39·3	−4·1	6	31	4	2·03	+1·21	0·0	0
	Prawle Point	45	21	44·1	35·6	40·0	−3·3	6	25	4	2·05	?	*	*
9. IRELAND, N.	Malin Head	53	32	47·1	39·7	43·6	+2·5	21	6	5	0·14	?	*	*
	Londonderry	54	34	47·3	37·5	42·6	+1·4	23	13	2	0·35	−0·60	*	*
	Mullaghmore	55	35	47·1	41·1	44·2	+2·2	19	3	3	0·31	−0·71	*	*
	Belmullet	53	36	47·7	41·0	44·5	+0·4	22	3	6	0·51	?	*	*
	Markree Castle	54	31	47·0	38·4	42·9	+1·7	21	10	4	0·42	−0·38	9·4	18
	Brookeborough	52	31	45·8	37·5	41·8	+1·6	11	19	5	0·50	?	*	*
	Armagh	54	33	46·7	38·6	42·8	+1·8	20	10	6	0·73	+0·10	7·1	13
	Donaghadee	53	31	47·6	39·9	43·9	+2·1	22	6	6	2·04	+1·39	*	*
	Edgeworthstown	54	34	46·4	38·9	42·8	+2·6	19	9	6	0·60	−0·19	*	*
10. IRELAND, S.	Dublin	54	35	48·3	41·6	45·1	+3·2	23	1	5	1·40	+0·87	2·2	4
	Parsonstown	54	21	46·7	35·1	41·1	+0·5	13	29	4	0·97	+0·32	6·2	11
	Kilkenny	52	25	48·0	38·1	43·3	+2·6	25	11	5	1·15	+0·50	*	*
	Waterford	51	31	46·4	39·9	43·3	+0·7	18	6	7	1·55	+0·64	*	*
	Roche's Point	51	31	47·6	39·3	43·6	0·0	23	8	6	2·47	+1·40	*	*
	Valencia	54	32	47·9	40·4	44·3	−1·7	23	4	4	1·12	−0·18	0·7	1
	Killarney	54	28	46·9	38·4	42·8	−1·2	21	10	5	0·89	?	*	*
	Foynes	57	34	47·3	38·7	43·2	+1·0	22	9	5	0·77	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	50	32	48·3	40·6	44·6	−2·9	24	4	7	1·15	+0·25	*	*
	Jersey	45	17	41·3	30·7	36·2	−8·1	0	41	5	0·74	−0·24	11·7	20

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked § with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

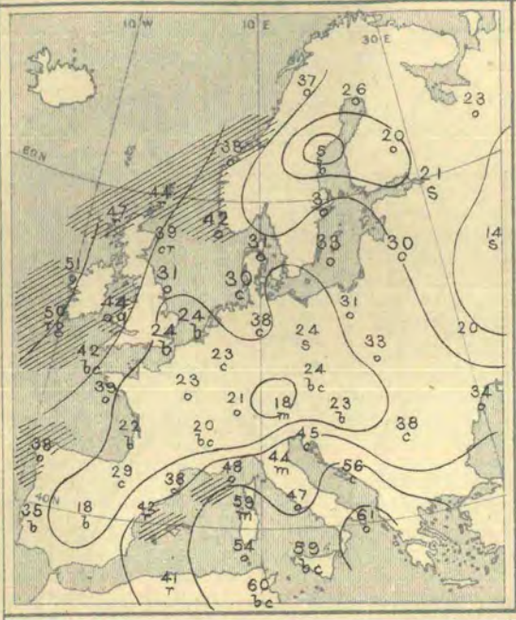
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

§ The corresponding values in last week's Report should read "0·34" and "−0·48."

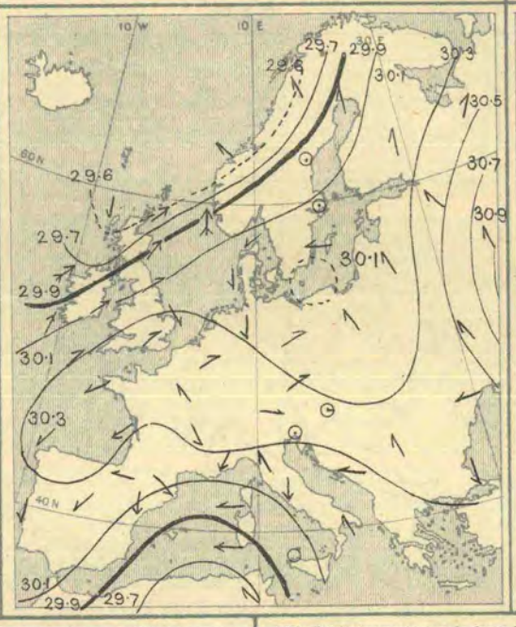
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 30th November.

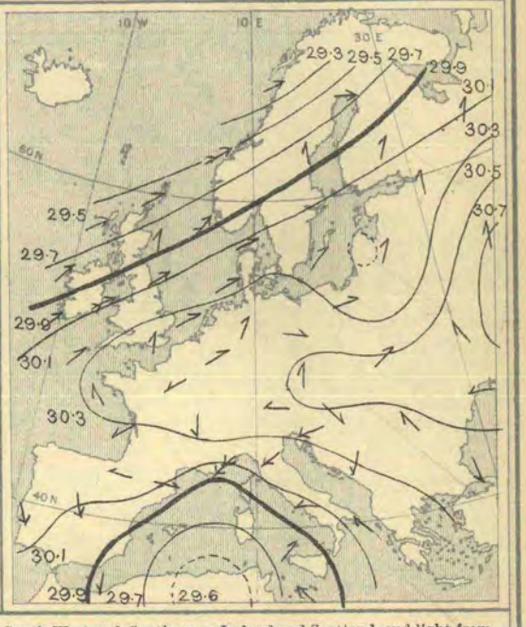
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over the southern half of England, the west of France, and the southern parts of the Spanish Peninsula; cloudy or overcast generally elsewhere, with rain at the Irish and Scotch stations, snow in some parts of Russia and north Germany. Rain falling generally in the west and north later, heavily at Holyhead and Valencia, and in considerable quantities in the west of Norway. Sky clearing in Austria, but heavy rain falling in Algeria.

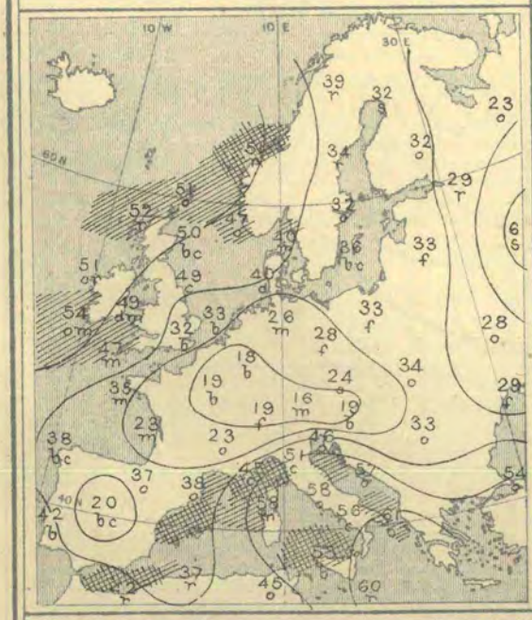
Temperature rising fast over Ireland, Scotland, many parts of France, north Germany, and the Baltic, as well as in Algeria; falling over south-eastern and eastern Europe. Morning readings as high as 66° at Brindisi, and exceeding 50° at most stations on the eastern shores of the Mediterranean, as well as in the extreme west of Ireland. Much lower elsewhere; as low as 7° at Kharkov, 14° at Moscow, 18° at Cambridge, 20° at Kuopio, Kiev, and Lyons, 23° at Paris and Brussels, 24° at Berlin and in London. Rising to 50° and more later all over Ireland and Scotland, and touching 54° at Valencia and Mullaghmore and 55° at Nairn. Exceeding 60° in the south of Italy, the highest reading of all being 68° at Brindisi.

Wind (1) strong to a gale from South-West and South over Ireland and Scotland, and light from South-East in the north-west and north of Scandinavia and over Russia; (2) moderate to a gale from between East and North over the northern and western parts of the Mediterranean, light from South-East at Brindisi, and from East at Lésina. Very light and variable over France and the east and south of England. The South-Westerly wind becoming still more general over our Islands later, but moderating in force in the east of Scotland. The North-Easterly wind increasing to a gale in the extreme south of France.

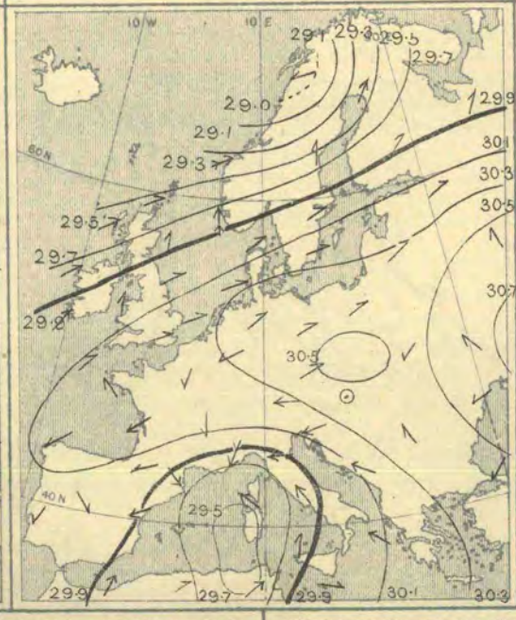
Barometer highest, 30·9 ins. to 30·4 ins. over central and southern Russia, 30·4 ins. to 30·3 ins. over France, south Germany, the Bay of Biscay, and southern parts of England. Lowest, 29·6 ins. and less in the extreme north of our Islands and north-west of Norway, and about the same value in a well-marked depression over Algeria. Falling later—little and unsteadily over our Islands, but more decidedly in the north of Norway. Algerian depression moving slowly northwards during day.

Monday, 1st December.

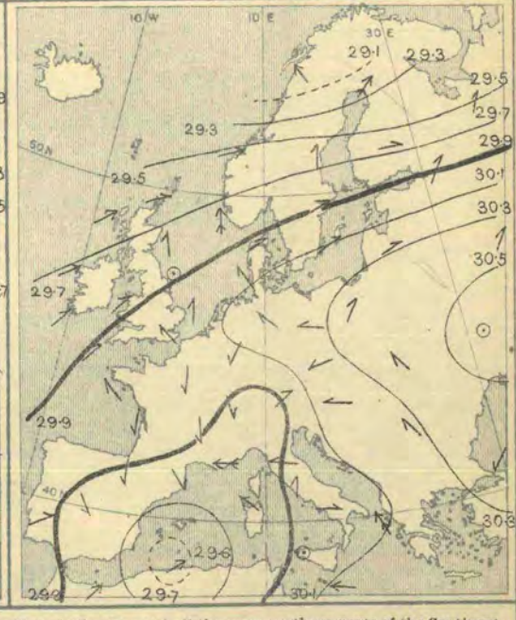
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the east of Great Britain, as well as in the Netherlands, central France, Spain, and some parts of Austria; dull elsewhere, with fog or mist at several of the French and German stations, and rain in Scandinavia, the west of our Islands, the extreme south of France, the north of Italy, and Algeria. Snow reported at Moscow. Large amounts of rain falling later at the Mediterranean stations, the heaviest of all being 2·2 ins. at Oran, 1·7 ins. at Naples, and 1·3 ins. at Marseilles and Algiers.

Temperature highest, 61° at Brindisi, 60° at Malta, 58° at Rome and Sanguinaire, and 57° at Lésina; above 50° at most of the Irish and Scotch stations, but below 45° in Algeria. Lowest, (1) 6° at Moscow and 14° at Kharkov; (2) 15° at Münster and Havre, 16° at Munich, 18° at Brussels, 19° at Paris, Belfort, and Vienna, and 20° at Madrid; below the freezing point over the whole of Russia and central Europe. Daily maxima exceeding 55° in some parts of Scotland, but thermometer remaining below 40° in the east of England, and also over the greater part of France. Exceeding 60° in Italy and rising as high as 73° at Palermo.

Wind South-Westerly over the United Kingdom and all the more northern parts of the Continent, strong in force in the extreme west and north-west of our Islands. Easterly or North-Easterly over Austria, Switzerland, France, and Spain, with a fresh to strong gale in the extreme south of France; strong from the South-Eastward over Italy and the Adriatic, South-Westerly in Algeria. Subsequently shifting to the Northward at many of the French stations. Wind subsiding slowly over the northern parts of the Mediterranean, but South-Westerly gale setting in at Algiers.

Barometer highest, 30·7 ins. and upwards over the southern parts of Russia, 30·1 ins. and upwards in a broad anticyclonic band extending from Russia across Denmark, central Europe, France, and the south-east of our Islands to the Bay of Biscay and the north of Spain. Lowest, 29·0 ins. and less in a rather deep depression lying off the north-west of Norway, 29·5 ins. and less in a well-marked disturbance lying over the central parts of the Mediterranean. Depression in north subsequently travelling away in a north-easterly direction: Mediterranean disturbance moving westwards.

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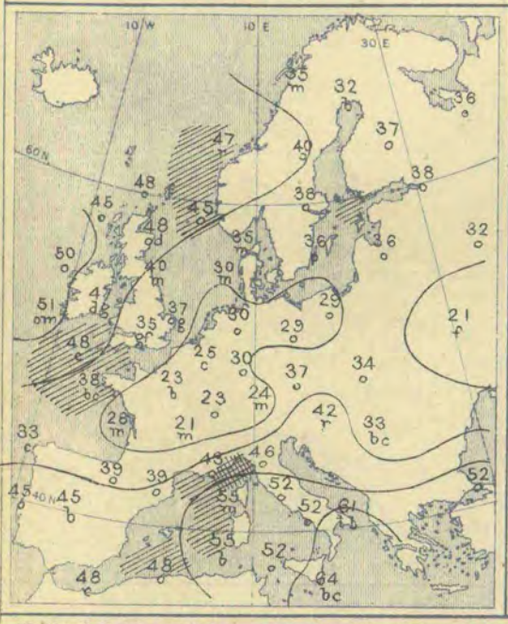
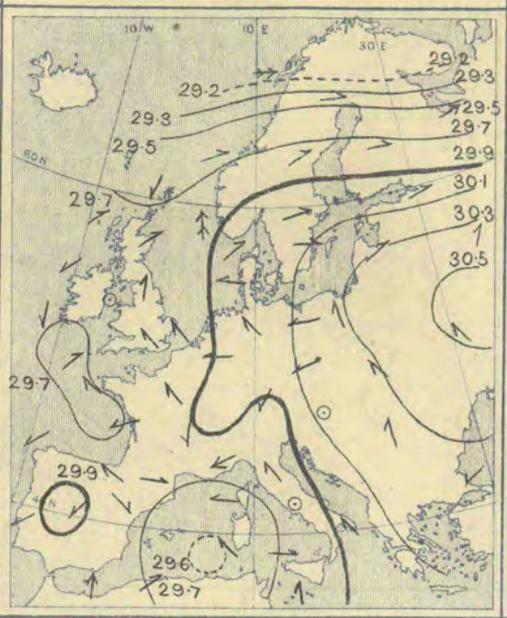
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 2nd December.

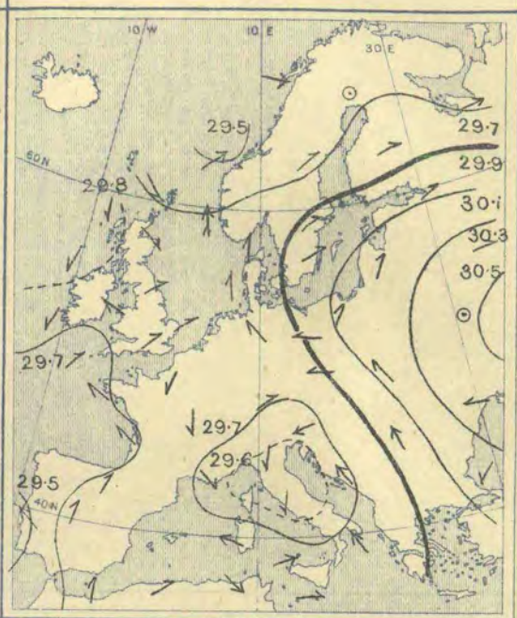
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull and unsettled over nearly the whole of Europe, with fog or mist in many places and rain in Ireland and the south of Scotland, as well as in isolated parts of Russia and Austria. Fine at a few of the Mediterranean stations, but a thunderstorm reported at Brindisi. Rain becoming general in the west and north of our Islands later, falls heavy in the south of Scotland and the northern parts of England and Ireland. Sky clearing in Austria and many parts of Russia.

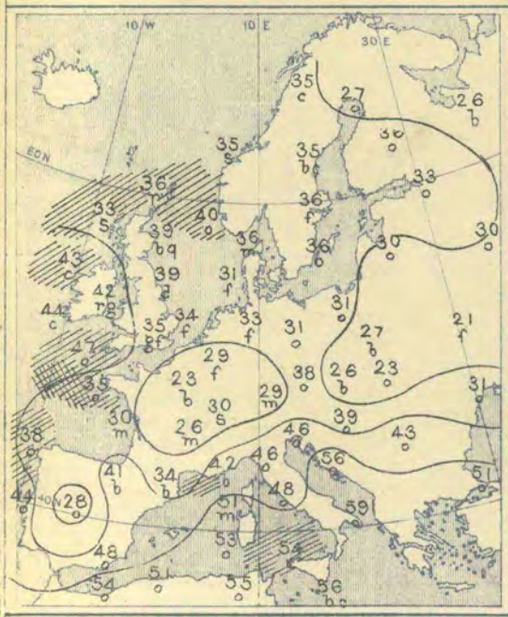
Temperature highest, 64° at Malta, 61° at Brindisi, 55° at Sanguinaire and Cagliari, and 52° at Rome, Naples, Palermo, and Constantinople; reaching 50° at some of the Irish and Scotch stations. Lowest, (1) 12° at Kharkov and 21° at Kiev; (2) 21° at Lyons, 23° at Münster, Paris, and Belfort, and 24° at Munich; and (3) 33° at York, Loughborough, and Cambridge. Daily maxima below 40° in most parts of England, France, and Germany, and as low as 35° at Cambridge. Exceeding 50° in most parts of Italy, Spain, and Algeria, the highest readings of all being 68° at Brindisi and 64° at Malta.

Wind light or moderate from the South-Eastward over nearly the whole of Denmark and central Europe, and also in the east and south-east of England; light from the Eastward in France and the south-west and south of our Islands, North-Easterly in Spain, and variable in Italy, but Southerly in Algeria. Light and variable over the northern parts of the United Kingdom, moderate to strong from the South-Westward or Westward over Scandinavia and northern Russia. Moderate Northerly breezes setting in later in the extreme west and north of our Islands; cyclonic circulation appearing over Italy.

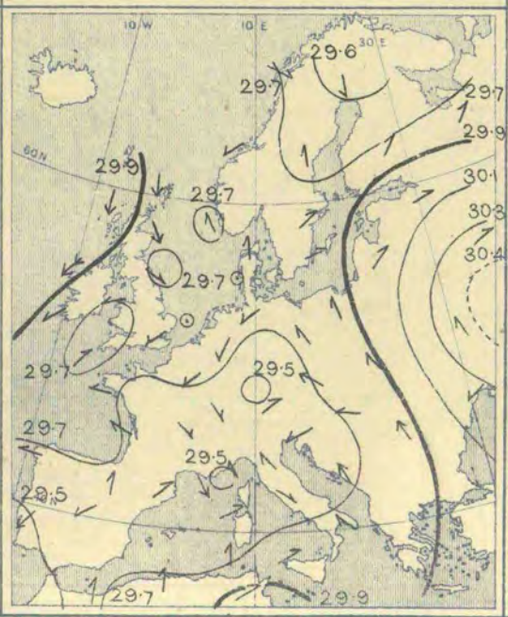
Barometer highest, 30·3 ins. to 30·6 ins. and upwards in a large anticyclone lying over the central and southern parts of Russia. Lowest, 29·3 ins. in a large and rather deep depression over the White Sea, 29·6 ins. and less in a small disturbance lying to the westward of Sardinia, 29·7 ins. and less in a large shallow area over the Bay of Biscay and our extreme south-western coasts. High-pressure system beginning to appear later to the north-westward of our Islands.

Wednesday, 3rd December.

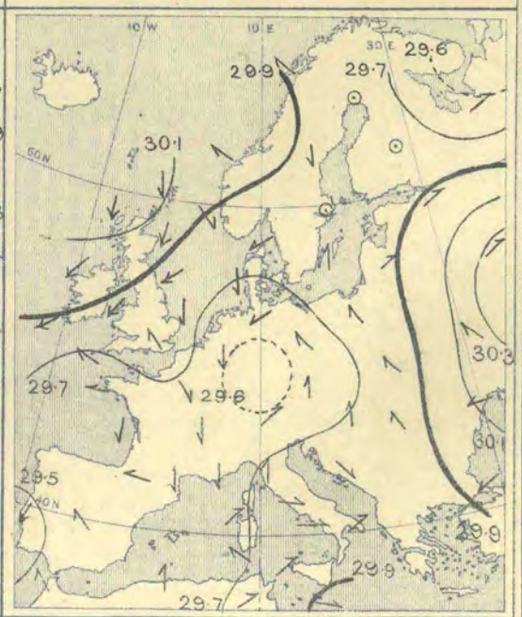
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy or overcast in nearly all parts of our Islands and the Continent, with mist or fog in many places, rain in the west and north of the United Kingdom, and snow at Christiansund, Stornoway, and Belfort. Fine over central France, and also in Poland and Tunis. Rain falling during day over the greater part of the United Kingdom and hail or snow in the north of Scotland. Further heavy rains over the northern parts of the Mediterranean, the largest amount being 3·9 ins. at Croisette.

Temperature highest, 59° at Brindisi, 56° at Lesina and Malta, 55° at La Calle, and 54° at Palermo and Nemours; above 50° over the central and southern parts of the Mediterranean generally. Lowest, 21° at Kiev, 23° at Lemberg and Paris, 24° at Kharkov, and 26° at Archangel and Lyons; below the freezing point in central Spain and very little above it over the central and eastern parts of England. Daily maxima below 45° in most parts of Great Britain and France, and as low as 30° at Belfort, but thermometer exceeding 60° at some of the Italian and Algerian stations, the highest reading of all being 68° at Brindisi.

Wind Northerly in Ireland and Scotland, with a gale in the extreme north-west; light in force and chiefly Southerly over the eastern parts of England. Light or moderate from the South-Eastward over the Adriatic, Austria, the south of Russia, and eastern Germany: Southerly in Sweden, South-Westerly in the north of Russia. Variable over Italy and the east and south of France, Easterly over Spain and the Bay of Biscay, Southerly in Algeria. Strong Northerly or North-Easterly winds setting in later over all the more western and northern parts of the United Kingdom.

Barometer highest, 30·5 ins. and upwards in an anticyclone lying over Russia, 30·0 ins. and upwards in another system lying to the north-westward of our Islands. Lowest, 29·6 ins. and less in a depression lying over Lapland, and also in an irregularly-shaped disturbance lying over western Germany, Switzerland, the south of France, and the north of Italy; 29·7 ins. and less in a shallow system over Wales and the south-west of England, and also in two smaller areas lying respectively near Skudesnaes and Shields. Anticyclone to the north-westward of our Islands subsequently spreading south-eastwards, and barometer rising in all parts of the United Kingdom.

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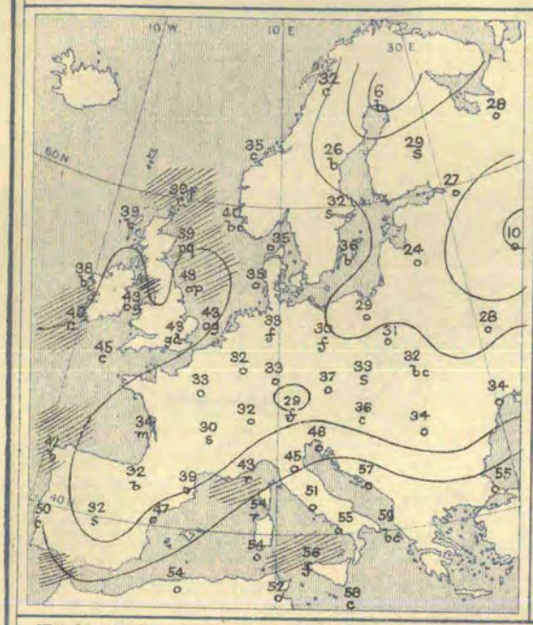
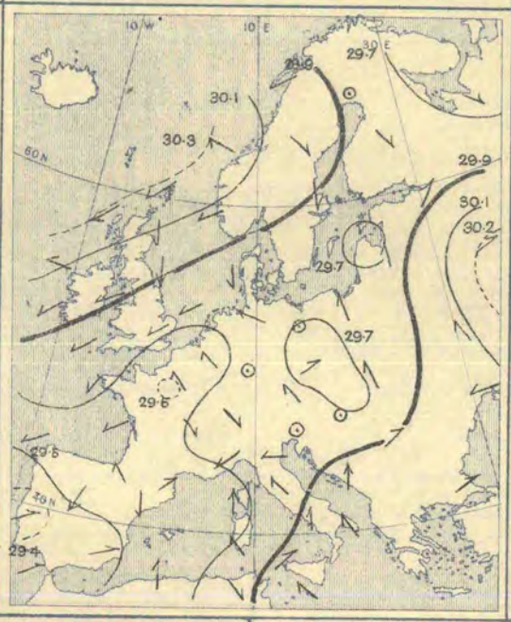
Thursday, 4th December.

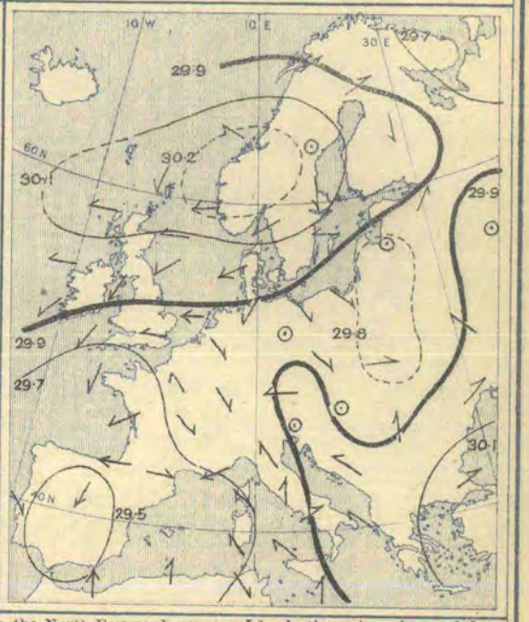
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy or overcast over the greater part of Europe, with fog at several of the German stations, rain in the eastern and southern parts of Great Britain, as well as in some parts of France, and snow at Kuopio, Stockholm, Cracow, Lyons, and Madrid. Fine in Ireland and the south of Scotland, as well as at many of the Scandinavian and Spanish stations. Rain falling later in most parts of the United Kingdom and France—heavily in the south of the latter country. Much snow at Madrid.

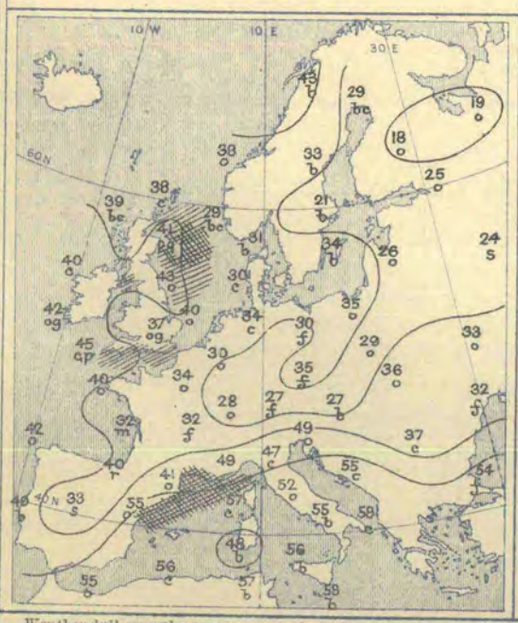
Temperature highest, 59° at Brindisi, 58° at Malta, 57° at Lesina, 55° at Naples and Constantinople, above 50° at nearly all the Mediterranean stations. Lowest, 6° at Haparanda, 10° at Moscow, 13° at Ulcaborg, 24° at Riga and Swinemunde, and 26° at Herndsand and Breslau; below the freezing point in many parts of northern, eastern, and central Europe, and also over central Ireland. Daily maxima below 45° over the greater part of the United Kingdom and below 40° over central France. Thermometer exceeding 60° in Algeria and the south of Italy, the highest reading of all being 72° at Nemours.

Wind moderate to strong from the North-Eastward over our Islands, the eastern shores of the North Sea, the west and south of France, and the northern and central parts of Spain, Northerly in Sweden, but light from the Southward over the greater part of Russia, and moderate from the same quarter or from South-East over Italy and the Adriatic. Light and variable over central Europe, and also in Algeria. No important change occurring during day.

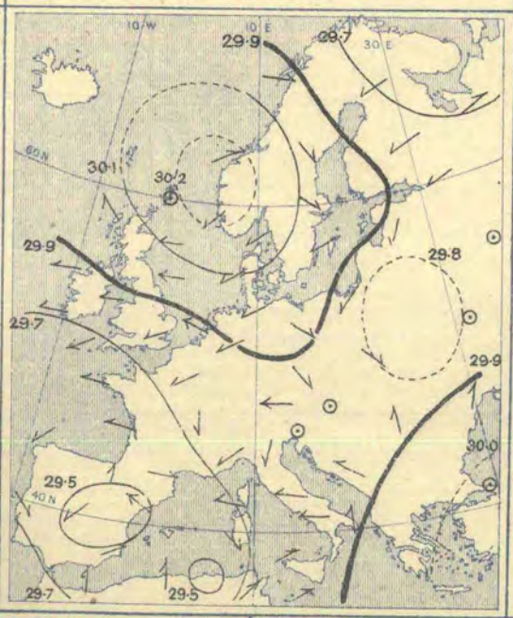
Barometer highest, 30·2 ins. and upwards in an anticyclone lying to the northward and north-westward of our Islands, and also in another system lying over Russia. Lowest, 29·4 ins. and less in a depression over Portugal, 29·6 ins. and less in a small disturbance lying near Paris, and 29·7 ins. and less in three further systems lying respectively over the White Sea, the Gulf of Riga, and over eastern Germany. Depression over Spain subsequently travelling slowly south-eastwards, small system near Paris moving westward.

Friday, 5th December.

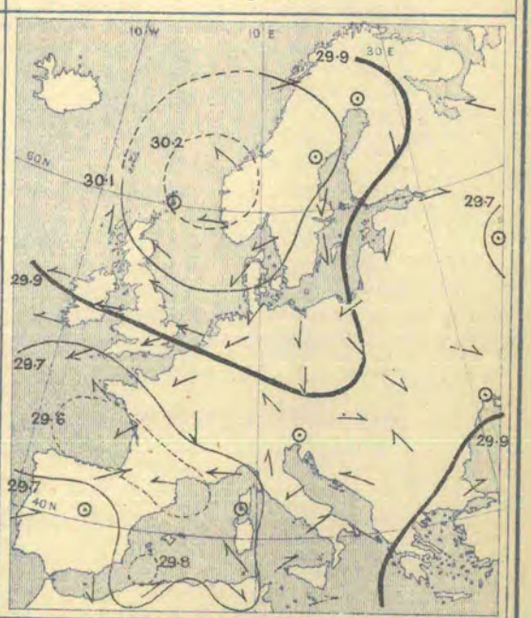
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull over the greater part of our Islands and the Continent, with fog over Germany and the south of Russia; passing showers in many parts of the United Kingdom, rain in the west of France, and snow at Moscow and Kharkov, as well as at Madrid. Fine in Scandinavia and Denmark, and also in Tunis and the south of Italy. Heavy rain falling during day at some of our southern and the French stations, the largest amounts being 1·3 ins. at Biarritz, 1·1 ins. at Prawle Point, 0·8 in. at Cette, and 0·7 in. at Roche's Point. Snow falling at Archangel and Moscow.

Temperature highest, 58° at Brindisi and Malta, 57° at Sanguinaire and La Calle, and 56° at Palermo and Algiers; above 50° at most of the Mediterranean stations. Lowest, 18° at Kuopio and Helsingfors, 19° at Archangel, 21° at Hangö and Stockholm, 23° at Haparanda, and 24° at Moscow; below the freezing point in many parts of northern and central Europe, and as low as 33° at Madrid. Daily maxima below 45° over the greater part of the United Kingdom and France, but thermometer exceeding 50° over southern Europe and exceeding 60° in Algeria and the south of Italy, the highest reading of all being La Calle and Palermo.

Wind Easterly over our Islands, the North Sea, the Netherlands, Denmark, the Baltic, and the greater part of France; strong in force on many parts of our own coasts, as well as at Toulon. Light or moderate from the Northward in Sweden and Finland, and also in Germany and Poland. Variable over Spain, Italy, Austria, and the south of Russia, Southerly in Algeria. Wind moderating later over the northern parts of the United Kingdom, but increasing from the Eastward in the south; no important change taking place on Continent.

Barometer highest, 30·1 ins. to 30·2 ins. and upwards in an anticyclone lying over Norway and the northern parts of Denmark and the North Sea. Lowest, 29·3 ins. and less in an elongated depression extending from central Spain to eastern Algeria, 29·6 ins. and less in a subsidiary system over the Bay of Biscay, 29·7 ins. and less over Lapland and the White Sea, 29·8 ins. and less in a shallow area lying over western Russia. Depression over Spain subsequently moving slowly northwards, but no other change of importance recorded.

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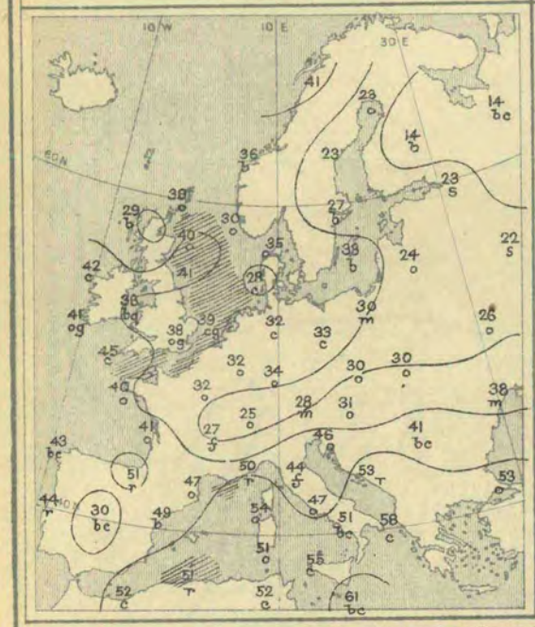
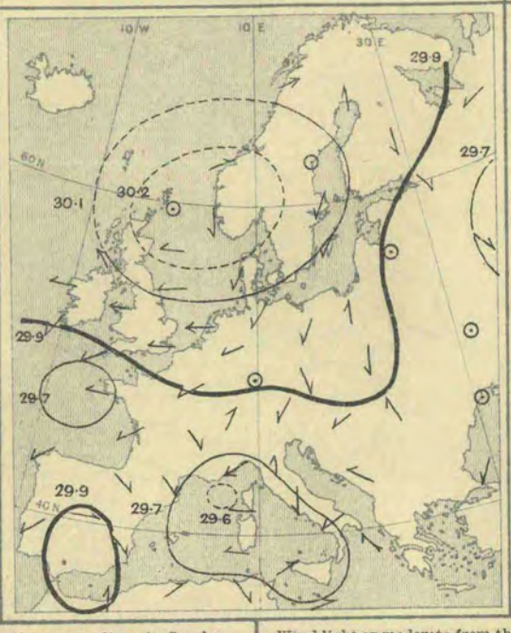
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 6th December.

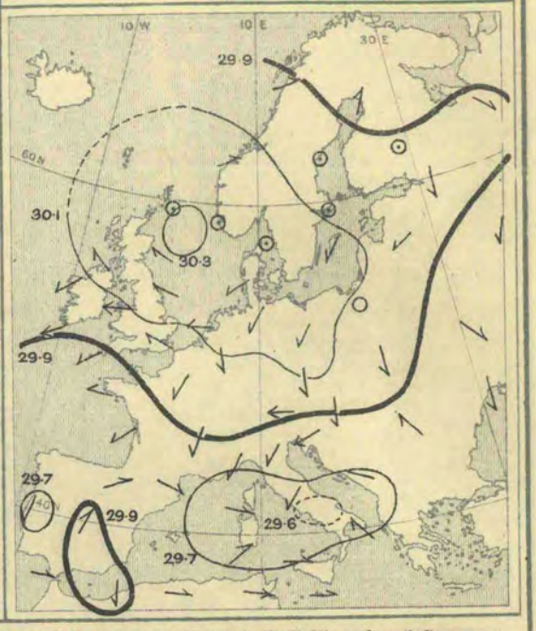
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fair at some of our own north-western and northern stations, as well as in Sweden, Finland, Spain, eastern Algeria, and the south of Italy. Dull elsewhere, with rain in the south-west of our Islands and some parts of southern Europe, and snow at St. Petersburg and Moscow. Rain falling during day in the north-eastern parts of the United Kingdom and snow in the south of Russia.

Temperature highest, 61° at Malta, 58° at Brindisi, 55° at Palermo, and 54° at Sanguinaire and Tunis; above 50° over the central and southern parts of the Mediterranean generally. Lowest, 9° at Uleaborg, 14° at Archangel, 19° at Helsingfors, 22° at Hangö and Moscow; below the freezing point over nearly the whole of Russia and central Europe, as well as in the inland parts of Scotland and Spain. Daily maxima below 40° in the south and south-east of England, as well as at most of the French stations, and as low as 34° at Nairn, but thermometer exceeding 50° over southern Europe generally, and exceeding 60° in Algeria and the south of Italy.

Wind light or moderate from the North-Eastward over Denmark, the Baltic, and north Germany; Easterly over the greater part of our Islands and France, strong in force on many of the English coasts. Light from the Northward in the south and east of Germany, variable over nearly the whole of southern and eastern Europe, as well as in Algeria. Easterly breezes setting in later over Italy, but no important change occurring elsewhere.

Barometer highest, 30·2 ins. and upwards in a large anticyclone extending from the north-west of Scotland to central Scandinavia. Lowest, 29·7 ins. and less in a large depression lying over Russia, and also in an equally large system lying over the Mediterranean; 29·7 ins. and less in a smaller disturbance over the northern parts of the Bay of Biscay. Mediterranean depression subsequently moving slowly northwards; disturbance over Bay of Biscay partially filling up.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the early part of the week a large and well-marked anticyclone lay over Russia, while a series of extensive depressions travelled in an east-north-easterly direction from the Atlantic to the north of Scandinavia. Strong winds or gales from the South-Westward, with mild, damp weather, were experienced in the extreme north-western parts of the Continent; but over eastern and central Europe the wind was variable and the weather dry and cold. Over the Mediterranean and adjacent countries the conditions were rendered very unsettled by a well-defined depression, which advanced slowly from Algeria to Italy. This occasioned unusually heavy falls of rain over Algeria and southern Europe, with Easterly gales in the extreme south of France.

Towards the middle of the period the anticyclone over Russia gave way while a new high-pressure area appeared over the extreme north and north-west of our Islands. The latter system eventually spread eastward and southward until it embraced all the more northern parts of Europe; and Easterly winds set in over the greater part of the Continent, their force being at times considerable on the British and Irish coasts. At the close of the week a shallow depression was spreading north-eastwards from the Spanish Peninsula, but the anticyclone in the north showed no signs of breaking up.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of the Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
November 15th	Llandudno	60	36	51·4	40·2	45·8	+0·3	24	5	5	1·45	+0·63	?	?
„ 22nd	Llandudno	60	38	55·7	45·8	50·7	+6·6	61	0	5	1·06	+0·25	?	?

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
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VOL. VII. No. 50]. *Third Series.* WEEK ENDING SATURDAY, 13TH DECEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 296.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	47	22	41·2	32·3	37·0	2 below.	0	− 6	35	+ 3	2092	+216	599	−118
	1. SCOTLAND, EAST -	45	18	38·2	29·7	34·1	3 below.	0	− 8	55	+16	2438	+ 53	713	− 77
	2. ENGLAND, N.E. - -	43	18	37·5	32·2	35·0	4 below.	0	− 9	49	+14	2729	+158	565	−118
	3. ENGLAND, EAST -	44	19	36·5	28·2	32·5	7 below.	0	−11	67	+32	3013	+ 59	717	+ 5
	4. MIDLAND COUNTIES	38	16	33·0	26·4	29·8	9 below.	0	−11	85	+48	2954	+ 38	729	− 8
	5. ENGLAND, SOUTH -	43	19	35·9	28·7	32·4	8 below.	0	−15	67	+39	3285	+ 59	493	− 39
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	46	24	39·2	32·4	35·9	4 below.	0	−11	43	+15	2638	+109	446	−133
	7. ENGLAND, N.W. -	48	14	35·8	29·1	32·6	8 below.	0	−12	66	+40	2850*	+149	448*	− 84
	8. ENGLAND, S.W. -	49	15	39·2	32·1	35·8	7 below.	0	−19	43	+27	3116	− 33	360	+ 39
	9. IRELAND, NORTH -	49	20	41·9	34·3	38·3	3 below.	0	−14	26	− 1	2770	+137	382	−132
	10. IRELAND, SOUTH -	51	21	43·5	34·6	39·2	3 below.	4	−17	28	+ 5	3167	+148	309	− 59
	— CHANNEL ISLANDS -	51	29	43·8	37·2	40·7	5 below.	5	−25	19	+13	3559	+ 66	138	+ 22

Rainfall.

	DISTRICTS. (See p. 296.)	For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	3	2	7 less.	254	+31	54·1	+ 1·9
	1. SCOTLAND, EAST -	3	1	6 less.	211	+25	32·3	+ 0·7
	2. ENGLAND, N.E. - -	1	1	6 less.	182	0	24·1	− 3·2
	3. ENGLAND, EAST -	1	less than ½	6 less.	176	−12	22·7	− 2·8
	4. MIDLAND COUNTIES-	1	less than ½	6 less.	174	− 6	21·8	− 7·1
	5. ENGLAND, SOUTH -	1	less than ½	6 less.	171	− 2	24·5	− 2·9
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	1	2	9 less.	215	+16	52·5	− 0·7
	7. ENGLAND, N.W. - -	0	—	8 less.	201	+14	34·5	− 0·1
	8. ENGLAND, S.W. - -	1	1	10 less.	208	+10	35·9	− 7·0
	9. IRELAND, NORTH -	3	5	3 less.	237	+15	37·5	+ 2·1
	10. IRELAND, SOUTH -	2	7	1 less.	219	+13	39·7	+ 1·2
	— CHANNEL ISLANDS -	2	less than ½	9 less.	205	−11	31·4	− 1·4

Bright Sunshine.

	DISTRICTS. (See p. 296.)	For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	3	7	1020	−190	24	− 4
	1. SCOTLAND, EAST -	1	3	1248	−133	29	− 3
	2. ENGLAND, N.E. - -	1	3	1238*	− 17	29	0
	3. ENGLAND, EAST -	7	14	1558	+ 29	36	0
	4. MIDLAND COUNTIES-	2	4	1359	− 11	32	0
	5. ENGLAND, SOUTH -	14	26	1477	+ 10	34	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	0	0	1295	− 25	30	− 1
	7. ENGLAND, N.W. - -	2	4	1241	− 73	29	− 2
	8. ENGLAND, S.W. - -	4	8	1507	− 78	35	− 2
	9. IRELAND, NORTH -	8	16	1236	− 16	29	0
	10. IRELAND, SOUTH -	10	19	1370	− 62	32	− 1
	— CHANNEL ISLANDS -	25	43	1791	− 79	42	− 2

General Remarks.

Weather has been very cold, quiet, and dry in almost all parts of the Kingdom, with much gloom and fog over the inland parts of England and a very large amount of cloud in Ireland and Scotland. At some of the south coast stations, however, the sky cleared occasionally. During the 10th and 11th the weather on our extreme western and northern coasts was mild and rainy.

Temperature has been below the mean in all districts, the deficit having ranged from 2° in "Scotland N." and 3° in "Scotland E." and over Ireland to 5° in the "Channel Islands" and between 7° and 9° over the greater part of England. The highest of the maxima, which occurred on rather irregular dates, varied from 51° in the "Channel Islands" and in "Ireland S." to 38° in the "Midland Counties." The daily maxima over England were generally very low. During the latter part of the week the thermometer in many instances did not reach 30°. The lowest of the minima (which were recorded on the 7th in Scotland, on irregular dates in Ireland, and on the 13th over England) ranged from 20° to 21° at the Irish stations, from 18° to 24° in Scotland, and from 14° to 19° over England.

Rainfall has been very slight or altogether absent at the English stations and very trifling over Scotland, while in Ireland the fall has been considerably less than the mean.

Bright Sunshine has again been very deficient generally, but at some of the extreme southern stations a fair amount has been recorded. The percentage of the possible duration varied from 43 in the "Channel Islands" and 26 in "England S." to 19 in "Ireland S.," 14 in "England E.," and between 8 and 1 in most other districts. In "Scotland W." the percentage was less than 1.

Barometer and Wind.—The distribution of pressure has been generally anticyclonic and the winds light from between North-East and East. No depressions have appeared immediately over us, but some systems have at times skirted our extreme western and northern coasts, causing the wind in those regions to shift to the southward and increase considerably in force.

* This value has been altered owing to the receipt of further information.

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III.– DATA from which the SUMMARY on page 295 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	46	36	44·3	38·6	41·6	+1·3	6	15	5	0·57	−0·41	*	*
	Stornoway	47	25	43·7	32·7	38·4	−1·5	5	35	5	0·22	−1·03	6·4	14
	Wick ℌ	45	33	43·6	36·1	40·0	+0·6	4	23	3	0·15	−0·57	*	*
	Lairg ℌ	40	24	37·8	28·8	33·5	−4·5	0	60	3	0·14	−0·81	*	*
	Glencarron ℌ	46	25	37·9	29·1	33·7	−4·1	0	58	4	0·23†	−2·05	*	*
	Fort Augustus ℌ	45	22	40·0	29·0	34·7	−4·2	0	51	0	— †	−1·12	1·9	4
	Fort William ℌ	45	28	41·4	31·8	36·8	−3·3	0	36	1	0·04†	−2·14	1·7	4
1. SCOTLAND, E.	Nairn	45	24	40·0	27·9	34·2	−4·1	0	55	1	0·01	−0·48	*	*
	Aberdeen	44	31	41·3	35·9	38·7	+0·6	0	23	4	0·10	−0·65	0·5	1
	Braemar ℌ	38	18	37·1	27·1	32·3	−2·3	0	68	3	0·05	−0·71	1·2‡	3‡
	Ochtertyre ℌ	39	21	35·4	28·7	32·2	−5·3	0	69	4	0·17	−0·85	*	*
	Leith ℌ	42	25	38·4	30·4	34·6	−3·9	0	52	0	—	−0·46	0·0‡	0‡
	Marchmont ℌ	40	18	37·0	28·3	32·8	−3·9	0	64	3	0·12	−0·68	3·5	7
2. ENGLAND, N.E.	Alnwick Castle	41	18	35·9	29·6	32·9	−5·3	0	64	2	0·08	−0·67	*	*
	Durham	40	26	36·2	30·1	33·3	−5·2	0	61	3	0·08	−0·63	1·9	4
	Shields	43	27	37·7	32·3	35·1	−4·3	0	48	2	0·09	−0·52	*	*
	Scarborough ℳ	42	30	38·4	34·1	36·3	−2·4	0	40	0	—	−0·70	1·7‡	3‡
	York	40	30	37·9	31·6	34·9	−4·2	0	50	1	0·02	−0·53	0·4	1
	Spurn Head	41	32	39·0	35·4	37·3	−1·8	0	33	0	—	?	*	*
3. ENGLAND, E.	Hillington ℳ	39	21	36·4	27·5	32·1	−6·6	0	69	1	0·02	−0·58	12·5	24
	Yarmouth	41	33	38·3	34·0	36·2	−3·0	0	41	0	—	−0·69	*	*
	Geldeston	44	20	39·1	28·2	33·9	−5·6	0	57	1	0·01	−0·55	12·9	24
	Cambridge	38	19	34·7	25·4	30·2	−8·9	0	83	0	—	−0·45	0·4	1
	Rothamsted	36	19	? 34·0	? 25·8	? 30·1	? −8·3	0	? 83	1	0·02	−0·57	2·8	5
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	37	16	35·1	27·0	31·2	−8·3	0	76	1	0·04	−0·50	3·9‡	8‡
	Loughborough	38	26	34·4	28·3	31·5	−7·0	0	74	0	—	−0·53	0·0‡	0‡
	Cheadle ℳ	35	21	33·1	27·1	30·2	−8·1	0	83	0	—	−0·75	*	*
	Churchstoke ℳ	34	20	31·6	25·4	28·6	−10·2	0	94	1	0·02	−0·69	1·6	3
	Hereford ℳ	36	19	32·6	26·2	29·5	−9·7	0	88	1	0·01	−0·53	*	*
	Cirencester	36	18	31·6	24·9	28·4	−10·7	0	95	1	0·02	−0·66	2·1	4
	Oxford	35	22	32·4	25·7	29·2	−10·3	0	90	1	0·01	−0·49	2·5	5
5. ENGLAND, S.	London	40	24	36·1	28·9	32·6	−7·4	0	66	0	—	−0·48	0·1‡	0‡
	Strathfield Turgiss ℳ	38	19	32·7	25·2	29·1	−10·4	0	90	1	0·01	−0·50	*	*
	Dungeness	43	25	39·6	31·3	35·6	−6·3	0	45	0	—	−0·73	21·2‡	39‡
	Hastings (St. Leonards)	42	26	38·0	30·5	34·4	−7·5	0	53	0	—	−0·67	28·1	51
	Southampton	38	23	34·9	27·0	31·1	−8·8	0	76	1	0·01	−0·69	8·1	15
	Hurst Castle	40	26	37·4	30·9	34·3	−7·8	0	54	1	0·01	−0·64	*	*
	Stowell ℳ	35	22	32·4	27·0	29·8	−12·2	0	85	2	0·04	?	?‡	?‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	46	27	42·4	33·9	38·3	−2·0	1	30	3	0·72†	−1·48	*	*
	Glasgow	40	28	39·0	32·7	36·0	−3·2	0	42	2	0·06	−0·89	0·0	0
	Ardrossan	42	27	39·0	32·1	35·7	−3·4	0	44	1	0·01	−0·89	*	*
	Glenlee ℌ	40	24	35·5	28·3	32·0	−6·5	0	70	0	— †	−1·39	*	*
	Douglas (Isle of Man)	42	32	40·2	34·9	37·7	−3·7	0	30	1	0·02	−1·00	0·6	1
7. ENGLAND, N.W.	Newton Reigny	39	14	34·2	24·2	29·4	−8·8	0	88	0	—	−0·79	1·9	4
	Stonyhurst	37	22	35·0	28·2	31·7	−7·4	0	72	0	—	−1·10	2·4	5
	Blackpool ℳ	38	22	34·0	29·2	31·7	−9·7	0	72	0	—	−0·77	1·2	2
	Manchester	37	21	33·5	27·8	30·8	−9·1	0	78	0	—	−0·84	*	*
	Liverpool Obsy. (Bidston)	38	24	33·9	29·6	31·8	−8·9	0	71	0	—	−0·61	*	*
	Llandudno ℳ	48	23	39·1	30·3	34·9	−7·3	0	50	0	—	−0·75	?	?
	Holyhead	47	30	41·0	34·0	37·6	−6·5	0	31	0	—	−0·87	*	*
8. ENGLAND, S.W.	Llandovery	41	15	35·0	26·1	30·7	−10·0	0	79	0	—	−1·22	*	*
	Pembroke	45	30	40·4	33·9	37·3	−6·1	0	33	2	0·04	−0·87	4·8	9
	Arlington (N. Devon)	42	21	36·6	28·4	32·7	−8·3	0	65	0	—	−1·41	*	*
	Cullompton ℳ	38	26	35·6	30·0	32·9	−8·6	0	64	0	—	−0·80	1·8	3
	Falmouth	49	33	44·6	37·0	41·0	−3·5	7	21	¼	0·13	−1·07	4·6	8
	Plymouth	47	29	41·8	34·1	38·1	−4·9	0	27	2	0·07	−0·75	5·3	10
	Prawle Point	46	31	40·2	35·4	37·9	−5·2	0	29	2	0·18	?	*	*
9. IRELAND, N.	Malin Head	46	34	42·1	36·4	39·4	−1·6	0	21	3	0·32	?	*	*
	Londonderry	46	30	41·9	35·6	38·9	−1·8	0	22	4	0·23	−0·68	*	*
	Mullaghmore	49	34	43·6	37·0	40·4	−1·5	4	19	3	0·99	+0·01	*	*
	Belmullet	46	32	42·3	33·9	38·3	−5.6	1	30	3	0·44	?	*	*
	Markree Castle	45	20	40·6	31·6	36·3	−4·8	0	40	3	1·15	+0·36	13·5	26
	Brookeborough	45	24	40·3	32·9	36·8	−3·3	0	36	1	0·29	?	*	*
	Armagh	47	23	41·9	33·3	37·8	−2·9	0	29	1	0·08	−0·55	2·7	5
	Donaghadee	47	29	43·6	37·6	40·7	−0·7	4	17	4	0·27	−0·36	*	*
	Edgeworthstown	46	23	40·4	30·7	35·7	−4·3	0	44	2	0·50	−0·25	*	*
10. IRELAND, S.	Dublin	49	29	43·0	35·2	39·3	−2·1	3	26	0	—	−0·54	11·3	22
	Parsonstown	48	22	41·7	32·0	37·0	−3·4	0	35	2	0·54	−0·13	14·2	27
	Kilkenny	49	21	42·0	29·3	36·2	−4·0	0	41	1	0·05	−0·64	*	*
	Waterford	50	27	42·8	33·6	38·4	−4·1	2	31	1	0·09	−0·82	*	*
	Roche's Point	51	31	46·0	38·1	42·2	−1·0	18	11	2	0·50	−0·58	*	*
	Valencia	50	33	46·6	37·9	42·2	−3·4	19	11	4	0·72	−0·58	4·0	8
	Killarney	49	25	43·7	36·0	40·0	−3·7	5	23	3	2·44	?	*	*
	Foynes	47	26	42·5	33·8	38·3	−3·7	1	30	4	1·60	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	51	39	46·4	41·3	44·0	−3·3	17	2	2	0·05	−0·86	*	*
	Jersey	47	29	41·1	33·1	37·3	−6·6	0	33	1	0·01	−0·90	24·7	43

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

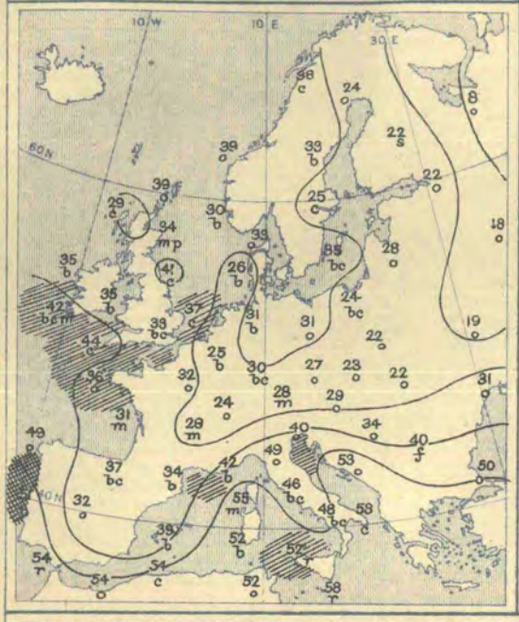
* An asterisk is inserted in all places for which the information is not usually received.

† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

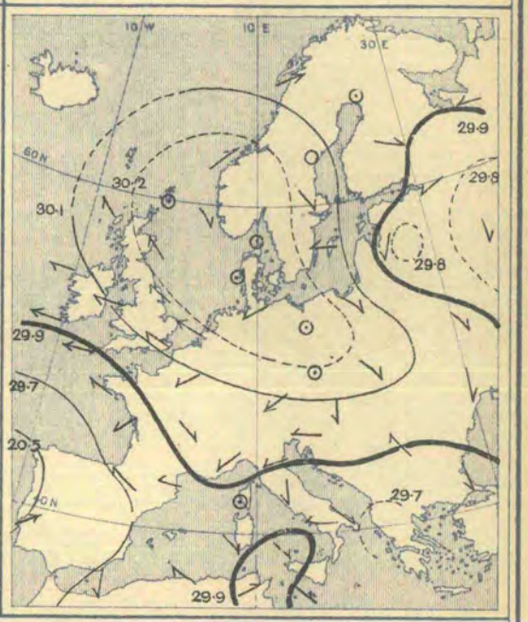
Sunday, 7th December.

Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.

Barometer and Wind. 6 p.m.



Weather fine in most parts of the United Kingdom, but dull in the extreme north of Scotland, and showery at Aberdeen and Prawle Point. Fine also in Sweden, Denmark, North Germany, the Netherlands, the south of France, and at some Italian and Algerian stations; dull elsewhere, with rain at Donaghadee, Aberdeen, Palermo, and Malta, and snow at Kuopio. Showers falling later at many of our own western and northern stations; lightning seen at Scilly at night. Heavy rain in Portugal.

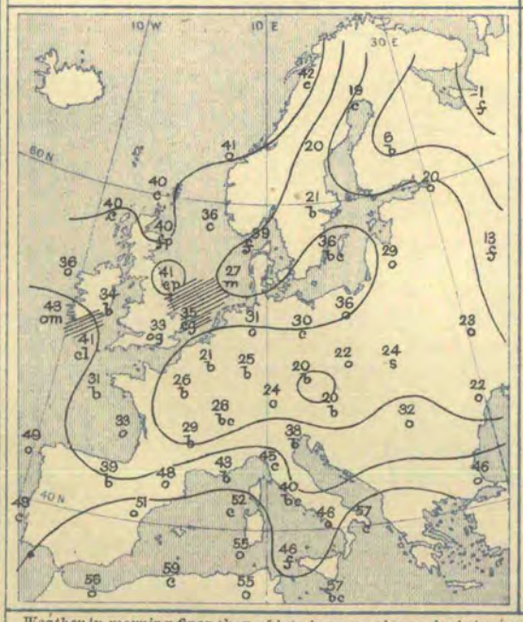
Temperature highest, 58° at Brindisi, Tunis, and Malta, 54° at San Fernando, Nemours, and Algiers, and 53° at Lésina; above 50° over most parts of the Mediterranean generally, as well as on the Spanish coasts. Lowest, 8° Faht. at Archangel, 18° at Moscow and Breslau, 19° at Kiev, and 22° at St. Petersburg, Warsaw, and Lemberg; below 32° over the central parts of Great Britain. Daily maxima below 40° in the southern, central, and eastern parts of England, and very little above 32° in central Scotland. Becoming still more cold over central and south-eastern Europe later, less cold over the Baltic and Finland.

Wind Easterly over Ireland and England, the Netherlands and France, and blowing a moderate gale at some of the Channel stations. Light from the North-Westward in the north of Scotland, and from the same quarter or from the Northward over Sweden, Russia, and eastern Germany. Light and variable over Spain, Italy, and Austria; South-Easterly or Southerly in Algeria. Subsequently shifting to the South-Eastward in Scotland, not much change elsewhere.

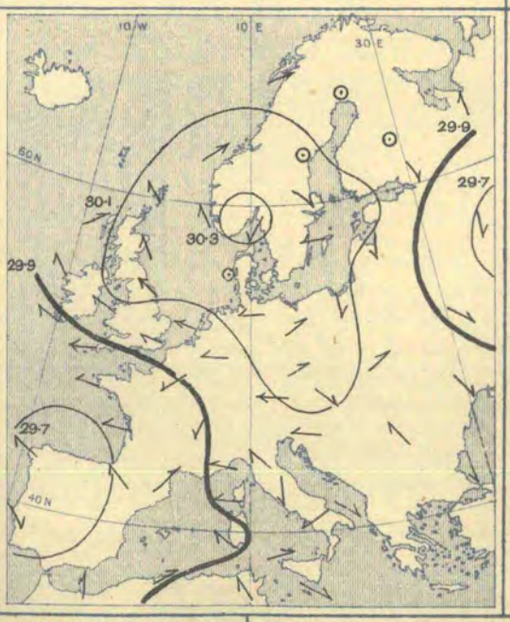
Barometer highest, 30·2 ins. to 30·3 ins. and upwards in a large anticyclone covering the North Sea, Denmark, the south of Norway, the north and north-east parts of Great Britain, and the north of Germany; 30·0 ins. and upwards in a smaller system lying over eastern Algeria. Lowest, 29·6 ins. and less in a depression lying off the Portuguese coasts, 29·7 ins. and less in a small disturbance over the southern parts of the Adriatic, 29·8 ins. and less in two shallow systems lying respectively over Finland and central Russia. Slight fall of barometer taking place over western Europe during day, and general distribution of pressure over Russia undergoing great changes, but readings continuing low.

Monday, 8th December.

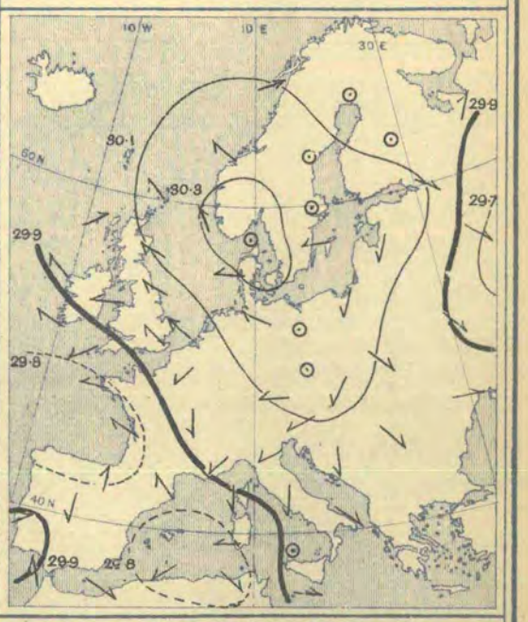
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning finer than of late in many places, sky being more or less clear over the greater part of Sweden, the Netherlands, France, western Germany, the Iberian Peninsula, and western Algeria; cloudy or overcast and gloomy elsewhere, with showers on our north-east coasts; snow reported at Lemberg. Local showers over the western and northern parts of the Kingdom and in Norway later, and considerable rain in various parts of Algeria; snow in central and southern Russia.

Temperature rather in excess of the mean over the extreme western and north-western countries, but below the mean over Spain, France, and central Europe. Morning values exceeding 50° at some of the Mediterranean stations and at Oporto only, exceeding 40° on our south-western coasts, in the Hebrides, Shetlands, and north-west of Norway. As low as −1° Faht. at Archangel, +6° at Kuopio, 13° at Kharkov and Moscow, 19° at Haparanda and Helsingfors, 20° at Hernösand, St. Petersburg, Münster, Prague, and Vienna, 26° at Paris, 30° at Berlin, 33° in London, and 35° at Parsonstown; not much change later—following night very cold at the inland stations.

Wind mainly South-Easterly and Easterly over the British Islands, the Netherlands, France, and the Bay of Biscay, and blowing strongly at the English Channel stations; mainly Northerly to North-Westerly, light, over the Baltic Provinces, eastern Prussia, and southern Russia. Very variable elsewhere, but light Southerly in the north of Scotland, and a moderate gale from South-West at Bodö. Easterly wind in Channel moderating considerably later, and Northerly wind, though light, becoming very general over Germany and Austria.

Barometer highest, 30·3 ins. and more to 30·1 ins. in a large anticyclone of irregular form lying over Scandinavia, Denmark, the Baltic, Germany, the North Sea, and north-eastern parts of our Islands. Lowest, 29·7 ins. and less in a large depression over central Russia and in a shallower system over the Iberian Peninsula. Spanish depression moving northwards later, but apparently filling up.

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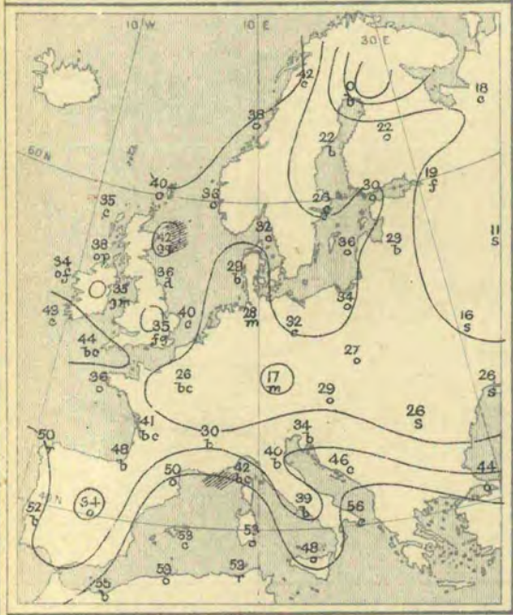
II.—SUMMARY OF WEATHER OVER EUROPE.

Tuesday, 9th December.

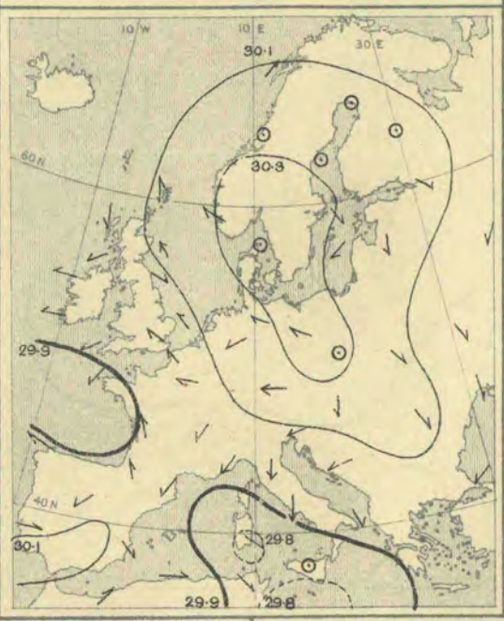
Temperature and Weather.

8 a.m.

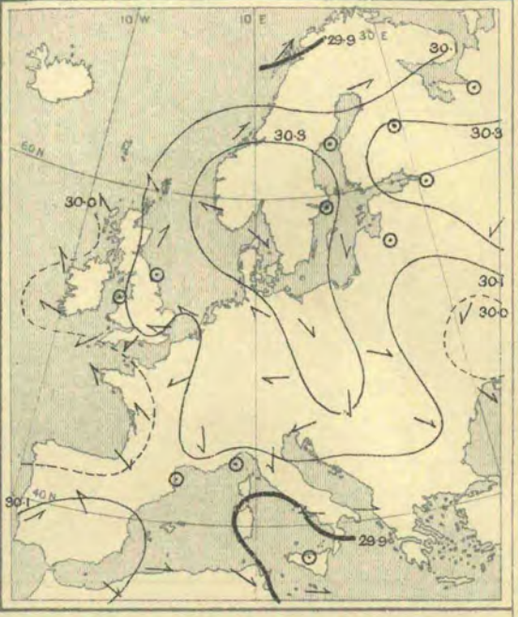


Barometer and Wind.

8 a.m.



6 p.m.



Weather fair as a whole, for the time of year, over the greater part both of our Islands and the Continent; clear and bright in some places, but dull and gloomy in most, with fog over England and Finland, and haze in many localities. Snow prevalent over Russia and Hungary, and rain in Tunis, at Corunna, and Prawle Point. Some rain during day in various parts of Scotland and on our south-western coasts; fog continuing over England. Very heavy rain at La Calle and a considerable quantity at Tunis.

Temperature changing very fitfully—rising over the southern and western regions, falling over central and eastern Europe. Morning readings all below 50°, except on the coasts of the Iberian Peninsula and on the southern shores of the Mediterranean; as low as 11° Fahr. at Moscow, 14° at Kharkov, 15° at Warsaw, and below 20° at most of the other Russian stations; 17° at Munich, 22° at Buda-Pesth, Lemberg, Münster, Oxford, and Hernösand, 26° at Paris, 29° at Parsonstown, 32° at Berlin, and 35° in London. Rising to between 44° and 48° at our south-western stations later, and to 40° and more in Scotland and the north-west of Norway, but remaining very low over central and eastern Europe.

Wind variable in direction, and, as a whole, light to moderate in force. Chiefly Easterly and South-Easterly over the British Isles, North Sea, France, and north Germany; strong to fresh from between East and North on the northern shores of the Mediterranean and Adriatic, moderate and variable from the Westward in the far south. Little or no change of importance observed later, except over Finmark, where a gale was blowing from South-West in the evening.

Barometer highest, 30·3 ins. and more to 30·1 ins. in a large anticyclone of irregular form, covering Denmark, Scandinavia, the North Sea, Baltic, and Germany. Lowest, 30·0 ins. and less over Russia, about 29·9 ins. in a shallow depression over the Bay of Biscay, 29·6 ins. and less in another near Cagliari, and about 29·7 ins. in another lying to the southward of Malta. Rising slowly over western Europe later, depressions over Russia and the Mediterranean moving south-eastwards or southwards.

Wednesday, 10th December.

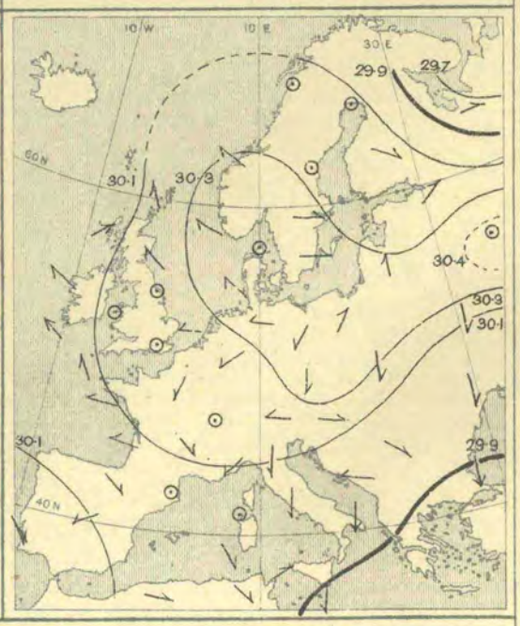
Temperature and Weather.

8 a.m.

Barometer and Wind.

8 a.m.

6 p.m.



Weather quiet generally, and in many localities fine, bright, and dry; fog very prevalent over Great Britain, the Channel, and west of France, as well as in some parts of northern Europe, haze in many other places, much cloud over eastern and south-eastern Europe, and snow at Moscow and Prague. Some rain at many of our western, south-western, and extreme northern stations later, a considerable fall (0·6 in.) at Valencia, and 0·2 in. at Biarritz; some further fall in Algeria, and snow in the south of Russia. Dense fog over south-east of England all day.

Temperature somewhat low, except in the extreme north-west; morning readings exceeding 50° over the southern parts of the Mediterranean and at Lisbon, exceeding 40° in the Hebrides, Shetlands, and north-west of Norway, but below 40° over the greater part of our Islands. Lowest morning values, (1) 5° Fahr. at Kiev, 10° at Moscow, 14° at St. Petersburg, and below 20° at almost all other Russian stations; (2) 19° at Munich and Münster, 20° at Prague, 21° at Paris, 22° at Brussels, 26° at Parsonstown, 30° at Nairn and Oxford, 31° in London, 32° at Berlin. Rising in west of our Islands later, and touching 51° at Scilly, 50° at Valencia Island; remaining very cold at English and French stations all day; hard frost continuing almost all over Continent.

Wind moderate to strong from the Westward over Lapland and north of Finland; light to moderate from South-East and South on our western and northern coasts, Easterly over the Bay of Biscay, very variable elsewhere, calm in many places. South-Easterly wind freshening in the west later, and beginning to spread eastward a little, but not reaching the eastern half of England.

Barometer highest, 30·4 ins. and more to 30·1 ins. in a large complex anticyclone covering nearly the whole of eastern, central, and north-western Europe. Lowest, 29·9 ins. and less over the Kola Peninsula and east of Lapland, as well as over Greece and the south-eastern parts of the Mediterranean. Gradients moderate (for Westerly winds) in the far north, slight and variable elsewhere, but mainly for Easterly winds over southern and western Europe. Falling steadily at our western stations later, rising over Spain and also over northern Europe.

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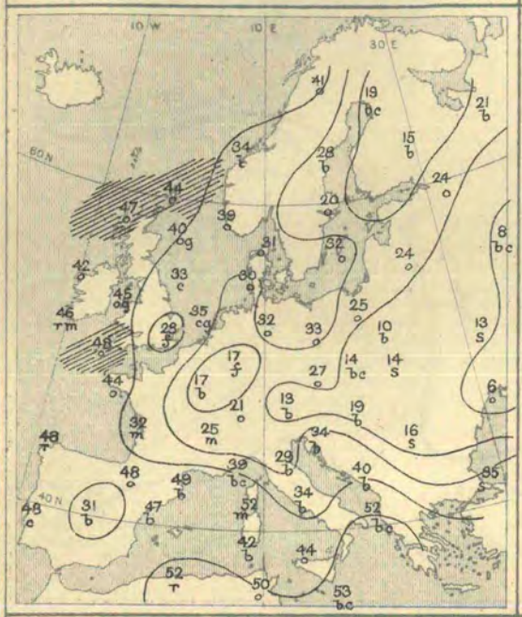
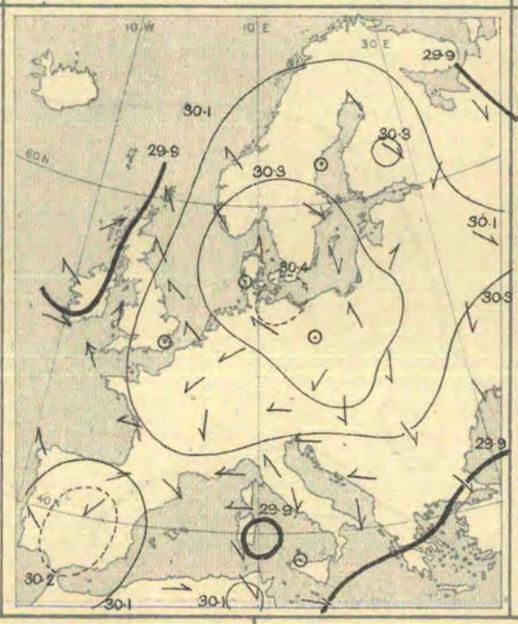
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 11th December.

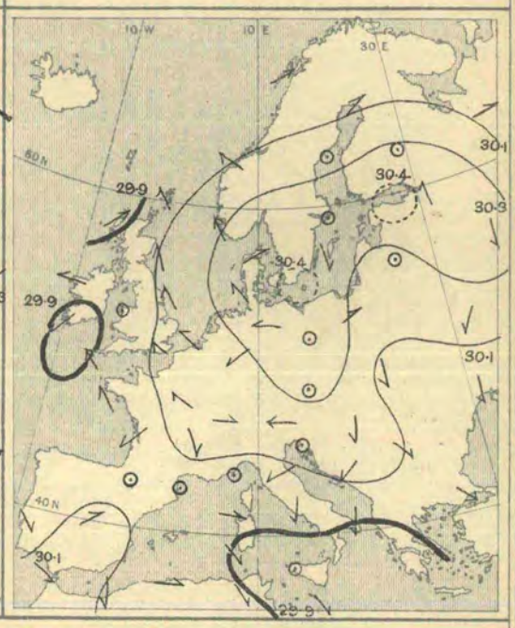
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather unsettled and rainy over Ireland and the west of Scotland, dull and very foggy over England, many parts of the North Sea, and France; fine and bright over northern Europe, Holland, and some parts of France, Germany, Spain, and the countries on the northern shores of the Mediterranean. Rain over Algeria, snow in the south-west of Russia and Hungary. Rainfall somewhat considerable in Ireland, Portugal, Spain, and at the Algerian stations; snow in the south of Russia and at Constantinople.

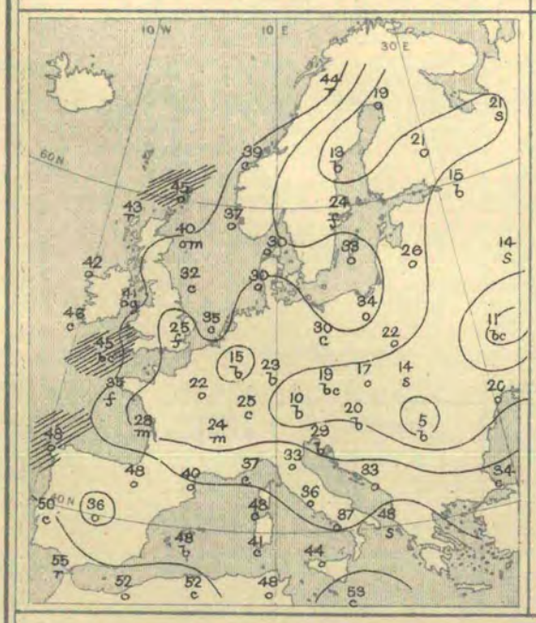
Temperature still rather high in the extreme west and north-west, lower elsewhere. Morning readings exceeding 40° on the Atlantic coasts of Europe and the British Isles, and exceeding 50° at Brindisi, Malta, and Algiers; much lower elsewhere. Lowest readings, (1) 8° at Moscow, 10° at Warsaw, 13° at Kiev, 14° at Lemberg and Cracow, and 15° at Kuopio; (2) 3° Fahr. at Nicolaieff, 6° at Odessa, 16° at Hermanstadt; (3) 17° at Paris and Brussels, 21° at Belfort, 28° at Hurst Castle, London, and Oxford. Not exceeding 28° at Lyons, Belfort, and Paris all day, but rising to between 32° and 39° over the inland parts of England, as well as at the German stations. Hard frost over Russia.

Wind moderate to fresh from the Southward over Portugal, the western parts of our Islands, the north-east of Scotland, and the north-west of Norway. Mainly Easterly to Northerly over southern Europe, very variable and light elsewhere, calms reported in many places. The Southerly wind in the west dying down later and a Northerly breeze appearing at Valencia, but the South-Westerly breeze in Lapland continuing.

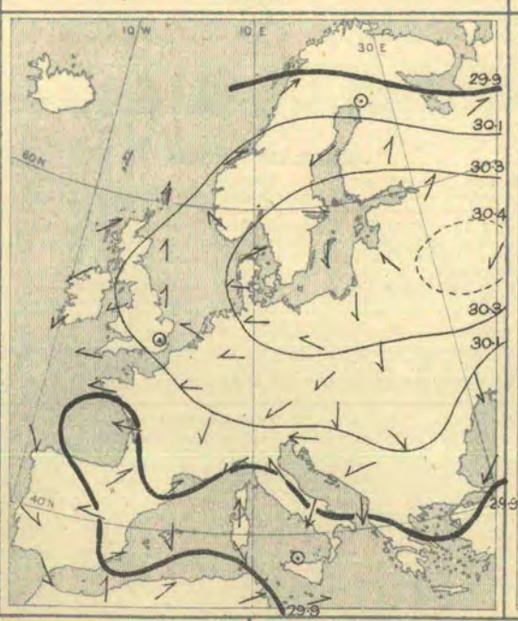
Barometer highest, 30·4 ins. to 30·1 ins. over nearly the whole of continental Europe, and 30·2 ins. to 30·1 ins. and more in a small anticyclone over Spain. Lowest, 29·9 ins. and less over the north-east of Russia, the extreme western parts of the British Islands, and over the Mediterranean. Rising a little at our south-western stations later, and also in the north of Russia. Spanish anticyclone moving south-eastwards.

Friday, 12th December.

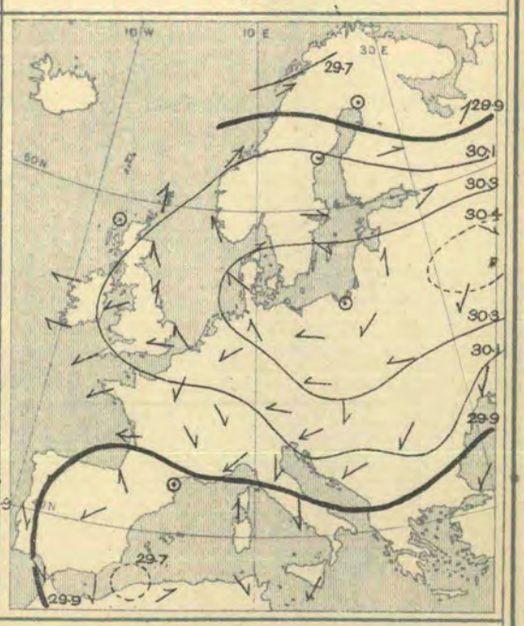
Temperature and Weather. — **8 a.m.**



Barometer and Wind. — **8 a.m.**



Barometer and Wind. — **6 p.m.**



Weather very quiet both over the British Islands and continental Europe—fine and bright over the south-eastern countries and in a few parts of our Islands, dull or foggy elsewhere, and somewhat unsettled in the south of Spain. Slight snow reported at Nicolaieff, rain at San Fernando, and also at Stornoway and Bodö. Rain falling in extreme north and north-west later and fog over London clearing. Very heavy rain over western Algeria—more than 4 ins. at Nemours, and a smaller amount over south of Italy.

Temperature continuing highest (50° and more) over Algeria and on the Atlantic coasts of Spain and Portugal, and exceeding 40° on our own western coasts and at Bodö, much lower elsewhere. Hard frost over the inland parts of the Continent and England. Lowest morning values, (1) −1° Fahr. at Kiev, +5° at Hermanstadt, 10° at Kharkov, 14° at Lemberg and Moscow, and 15° at St. Petersburg; (2) 10° at Munich, 15° at Brussels, 19° at Prague and Buda-Pesth, and 20° at Vienna, Münster, and Le Mans, 22° at Paris, and 25° at Oxford and in London. Frost scarcely yielding over England during day and remaining firm on the Continent.

Wind Southerly and South-Westerly on the extreme north-western and northern coasts. Mainly Easterly to Northerly over the Mediterranean, and Easterly over western and south-eastern Europe, as well as in the north-west of Germany. Variable in direction elsewhere, and light to moderate in force. South-Westerly wind increasing to a moderate gale in the north of Norway later, and strong South-Westerly breeze setting in over the Gulf of Finland.

Barometer highest, 30·4 ins. and more to 30·1 ins. in a large anticyclone covering all but the extreme northern, western, and southern parts of Europe. Lowest, 29·9 ins. and less over Lapland and the White Sea, as well as over the Bay of Biscay and Mediterranean. Gradients moderate over the most northern countries, slight to almost nil elsewhere. Falling over Lapland during day and gradients over northern Europe increasing somewhat.

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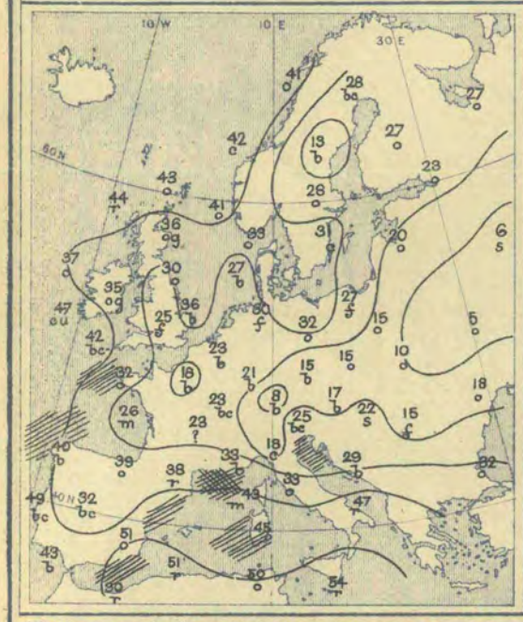
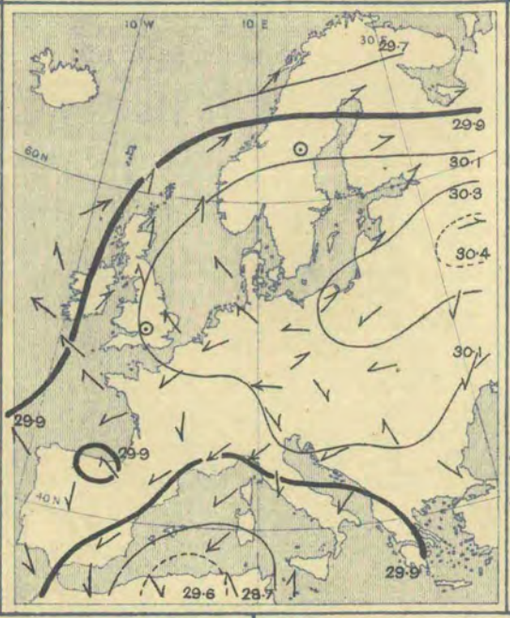
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 13th December.

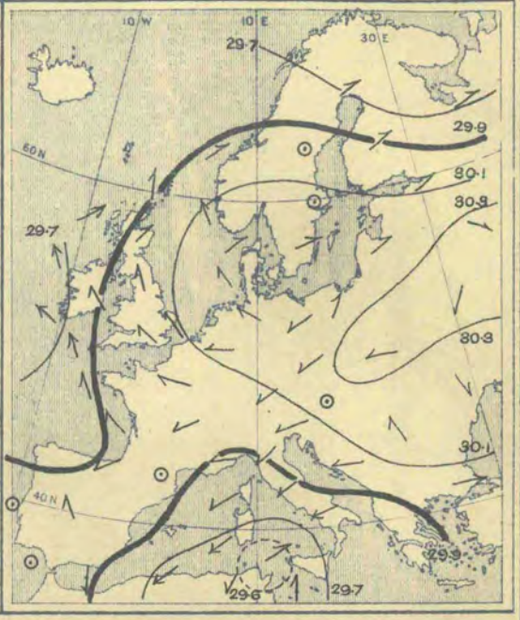
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over the greater part of central and south-western Europe, very dull elsewhere; foggy in many parts of England and the Netherlands, rainy in the Hebrides, and also, very generally, over Algeria, at Malta, and Brindisi; snow falling over central Russia and at Pesaro. Rainfall somewhat heavy later over Algeria, Tunis, and the southern parts of Italy, as well as at Bodö: smaller quantities in the extreme west and north-west of our Islands; snow in the south of Russia.

Temperature very low even for time of year, except in the extreme north-west of our Islands and Norway. Morning readings exceeding 50° at Malta, La Calle, and Algiers only, and exceeding 40° on the coasts of the Spanish Peninsula, the south-west and extreme north of our Islands, and the west of Norway. Much lower elsewhere; 5° to 10° Fahr. over central and southern Russia, below 20° over Hungary, south Germany, and at Paris, and below 30° over nearly all the remainder of Europe and our own south midland counties; very little change later beyond an increase of cold over Russia.

Wind (1) strong from North-East and North over the Mediterranean, light Southerly over Tunis; (2) light easterly over the Bay of Biscay, moderate Southerly in the west and north of our Islands, strong South-Westerly over Norway, light over Sweden, Finland, and the north of Russia; very variable elsewhere. The Southerly wind becoming rather more general in our Islands for a time later on; little change elsewhere.

Barometer highest, 30·4 ins. to 30·6 ins. in a large anticyclone covering eastern, central, and the greater part of western and north-western Europe. Lowest, 29·7 ins. and less over Lapland and the Kola Peninsula, and also in a well-marked depression lying over Algeria; 29·8 ins. and less off the west of Ireland. Falling in the latter region during the day, little change elsewhere.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week the distribution of pressure has been anticyclonic over nearly the whole of Europe, cyclonic over the Mediterranean, Algeria, the Spanish Peninsula, and at times off the extreme west and north-west coasts of the British Islands also. The anticyclone has been large and of moderate intensity; its central area lay for some time over the North Sea, Denmark, and the southern parts of Scandinavia, but after Thursday took up a position over Russia, while its western part spread thence across the Continent—to the Atlantic coasts in a westerly direction, to the Mediterranean in a Southerly direction, and to Lapland and the White Sea in a northerly direction. The weather has consequently been very cold for the time of year, and dry—hazy in many places, and very foggy over the inland parts of England. In those distant regions, however, which were affected by cyclonic systems, large quantities of rain have fallen at times, mainly over Algeria, Portugal, and the extreme west of Ireland. The wind has been South-Westerly in the far north, mainly Easterly elsewhere.

At the close of the week severe frost prevailed over the inland parts, both of the Continent and England, as well as at the Channel coast stations of the United Kingdom and France.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each Day.	Of Lowest each Day.	For whole of the Day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
December 6th	Ochtertyre	52	30	44·9	37·0	41·1	+3·7	8	21	5	0·51	−0·50	*	*
„ 6th	Llandudno	52	29	46·0	37·2	41·8	−0·8	11	21	5	0·50	−0·28	?	?
„ 6th	Scarborough	—	—	—	—	—	—	—	—	—	—	—	3·3	6

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 51]. *Third Series.* WEEK ENDING SATURDAY, 20TH DECEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881-85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 302.)	Observed during the Week. Highest.	Observed during the Week. Lowest.	Averages of Daily Maxima.	Averages of Daily Minima.	Averages of Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	For the Week. Difference from Mean.	For the Week. Below 42°	For the Week. Difference from Mean.	From December 29th, 1889. Above 42°	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Below 42°	From December 29th, 1889. Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	47	22	40·7	32·4	36·7	2 below.	0	− 6	37	+ 4	2092	+210	636	−117
	1. SCOTLAND, EAST -	45	18	37·2	28·8	33·2	4 below.	0	− 7	62	+21	2438	+ 47	775	− 56
	2. ENGLAND, N.E. - -	42	19	35·4	27·6	31·6	7 below.	0	− 8	73	+36	2729	+154	638	− 83
	3. ENGLAND, EAST -	37	14	32·0	23·0	27·7	11 below.	0	− 9	100	+62	3013	+ 53	817	+ 63
	4. MIDLAND COUNTIES	38	10	31·9	22·6	27·5	11 below.	0	−10	102	+63	2954	+ 32	831	+ 55
	5. ENGLAND, SOUTH -	39	11	33·2	22·8	28·2	12 below.	0	−14	97	+67	3285	+ 48	590	+ 27
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	46	22	38·9	30·4	34·8	4 below.	0	−10	50	+20	2638	+101	496	−112
	7. ENGLAND, N.W. -	46	13	33·7	25·8	29·9	11 below.	0	−11	85	+57	2850	+141	533	− 28
	8. ENGLAND, S.W. -	47	15	38·4	29·0	33·9	8 below.	0	−18	57	+40	3116	− 49	417	+ 81
	9. IRELAND, NORTH -	48	19	40·5	32·2	36·5	5 below.	0	−13	39	+10	2770	+126	421	−121
	10. IRELAND, SOUTH -	50	23	43·0	33·3	38·4	4 below.	3	−17	33	+ 9	3170	+127	342	− 49
	— CHANNEL ISLANDS -	49	23	43·1	34·9	39·2	6 below.	3	−24	27	+20	3562	+ 43	165	+ 43

Rainfall.

	DISTRICTS. (See p. 302.)	For the Week. Number of Rainy Days.	For the Week. Total Fall.	For the Week. More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Total Fall.	From December 29th, 1889. Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	3	5	4 less.	257	+29	54·6	+ 1·5
	1. SCOTLAND, EAST -	3	3	5 less.	214	+24	32·6	+ 0·3
	2. ENGLAND, N.E. - -	3	1	5 less.	185	− 1	24·3*	− 3·6
	3. ENGLAND, EAST -	4	2	3 less.	180	−11	22·9	− 3·2
	4. MIDLAND COUNTIES-	3	4	2 less.	177	− 6	22·2	− 7·3
	5. ENGLAND, SOUTH -	4	8	2 more.	175	− 1	25·3	− 2·7
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	3	2	9 less.	218	+15	52·7	− 1·6
	7. ENGLAND, N.W. - -	2	2	6 less.	203	+12	34·7	− 0·7
	8. ENGLAND, S.W. - -	4	11	1 more.	212	+10	37·0	− 6·9
	9. IRELAND, NORTH -	3	9	2 more.	240	+13	38·4	+ 2·3
	10. IRELAND, SOUTH -	3	11	2 more.	222	+12	40·8	+ 1·5
	— CHANNEL ISLANDS -	4	8	1 less.	209	−12	32·2	− 1·5

Bright Sunshine.

	DISTRICTS. (See p. 302.)	For the Week. Hours recorded.	For the Week. Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	From December 29th, 1889. Difference from Mean.	From December 29th, 1889. Percentage of possible Duration.	From December 29th, 1889. Difference from Mean.
Principal Wheat-producing Districts.	**0.** SCOTLAND, NORTH -	7	15	1027	−186	24	− 4
	1. SCOTLAND, EAST -	2	5	1250	−138	29	− 3
	2. ENGLAND, N.E. - -	4	7	1242	− 20	29	0
	3. ENGLAND, EAST -	4	8	1562	+ 24	36	+ 1
	4. MIDLAND COUNTIES-	2	3	1361	− 18	31	− 1
	5. ENGLAND, SOUTH -	4	8	1481	+ 4	34	0
Principal Grazing, &c., Districts.	**6.** SCOTLAND, WEST -	1	1	1296	− 29	30	0
	7. ENGLAND, N.W. - -	2	5	1243	− 76	29	− 1
	8. ENGLAND, S.W. - -	12	23	1519	− 73	35	− 2
	9. IRELAND, NORTH -	9	17	1245	− 12	29	0
	10. IRELAND, SOUTH -	10	19	1380	− 59	32	− 1
	— CHANNEL ISLANDS -	16	29	1807	− 72	42	− 1

General Remarks.

Weather has continued very cold and winterly over the greater part of England, with much gloom and fog, and occasional falls of snow. Over Scotland, Ireland, and the south-west of England the conditions have been more variable, severe frost alternating with comparative mildness and rain or sleet.

Temperature has again been below the mean, the deficit having ranged from 2° to 4° in the Scotch districts, from 4° to 5° in the Irish, and from 11° to 12° in most of the English. The highest of the maxima, which were recorded on irregular dates, varied from 50° in "Ireland S." to 37° in "England E." During the greater part of the time the maxima over England were very low, the thermometer in many instances not reaching 30° all day. The lowest of the minima were registered either during the early part of the week or on Saturday, and were unusually low. In the "Midland Counties" the sheltered thermometer fell to 10°, in "England S." to 11°, and in the other English districts to between 13° and 19°. Over Scotland the lowest values ranged from 18° to 22°, and over Ireland from 19° to 23°.

Rainfall has been a little more than the mean over Ireland and the south-west and south of England, but less in all other districts. In the east and north-east of England and the west of Scotland the fall has been very slight.

Bright Sunshine has continued very deficient, and at several stations (including London) has been entirely absent. The percentage of the possible duration ranged from 1 in "Scotland W." and from 3 to 8 in most other parts of Great Britain to between 17 and 19 in Ireland, to 23 in "England S.W.," and 29 in the "Channel Islands."

Barometer and Wind.—The distribution of pressure over our Islands has been very variable. Several depressions have appeared over us from time to time, but have been of no great depth. In the east and south-east the gradients have been slight and mainly for Easterly winds, while in the west and north they were occasionally rather steep for winds from the South-Eastward and Southward.

* The corresponding value in last week's Report should read "24·2."

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III.—DATA from which the SUMMARY on page 301 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℌ	46	34	42·9	35·7	39·4	−0·7	3	23	5	0·55	−0·43	*	*
	Stornoway ℌ	47	27	42·0	34·7	38·5	−1·1	0	25	4	0·36	−0·42	6·4	15
	Wick ℌ	45	32	42·3	35·7	39·1	0·0	1	23	3	0·63	−0·08	*	*
	Lairg ℌ	43	26	38·2	23·7	33·6	−4·4	0	59	3	0·36	−0·59	*	*
	Glencarron ℌ	43	22	38·0	28·2	33·3	−4·7	0	61	3	0·89†	−1·38	*	*
	Fort Augustus ℌ	45	26	40·2	30·4	35·5	−3·6	0	46	3	0·16†	−0·99	9·0	20
	Fort William ℌ	46	31	41·6	33·4	37·7	−2·1	0	30	2	0·12†	−2·08	4·4	10
1. SCOTLAND, E.	Nairn ℌ	44	20	39·9	28·4	34·4	−3·7	0	53	2	0·15	−0·33	*	*
	Aberdeen ℌ	45	27	38·9	32·7	35·9	−1·9	0	43	6	0·94	+0·19	1·4	3
	Braemar ℌ	39	25	36·3	28·9	32·8	−1·8	0	64	2	0·10	−0·64	1·7‡	4‡
	Ochtertyre ℌ	45	22	36·6	28·4	32·7	−5·0	0	65	3	0·11	−0·93	*	*
	Leith ℌ	43	23	37·9	29·0	33·6	−4·6	0	59	2	0·05	−0·40	0·4‡	1‡
	Marchmont ℌ	40	18	33·5	25·5	29·7	−6·5	0	86	2	0·17	−0·61	6·2	13
2. ENGLAND, N.E.	Alnwick Castle	41	21	37·6	28·3	33·1	−5·1	0	62	2	0·12	−0·62	*	*
	Durham	38	19	33·9	25·6	29·9	−8·3	0	85	2	0·12	−0·59	2·5	5
	Shields	42	22	36·7	27·6	32·3	−6·9	0	68	2	0·11	−0·49	*	*
	Scarborough ℌ	39	23	35·5	27·2	31·5	−6·7	0	74	3	0·15	−0·53	4·6‡	9‡
	York	38	20	32·3	25·4	29·0	−9·7	0	91	3	0·13	−0·41	?	?
	Spurn Head	38	28	36·4	31·3	34·0	−4·3	0	56	3	0·16	?	*	*
3. ENGLAND, E.	Hillington ℌ	35	17	31·8	21·7	27·0	−11·4	0	105	5	0·34	−0·24	6·9	14
	Yarmouth	37	23	34·0	27·3	30·8	−8·5	0	78	1	0·07	−0·60	*	*
	Geldeston	37	16	33·3	22·1	27·9	−11·3	0	99	2	0·12	−0·40	6·6	12
	Cambridge	32	14	29·6	21·7	25·8	−13·2	0	113	5	0·42	−0·03	0·0	0
	Rothamsted	33	15	? 31·1	? 22·2	? 26·8	? −11·4	0	? 106	5	0·27	−0·31	2·2	4
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	34	10	31·6	23·0	27·5	−11·8	0	102	2	0·08	−0·45	0·0‡	0‡
	Loughborough	37	14	31·4	22·6	27·2	−11·0	0	104	3	0·28	−0·25	3·1‡	6‡
	Cheadle ℌ	37	16	31·5	23·2	27·5	−10·7	0	102	2	0·24	−0·50	*	*
	Churchstoke ℌ	38	17	32·0	22·4	27·4	−11·3	0	102	?	?	?	1·5	3
	Hereford ℌ	37	18	32·0	24·5	28·4	−10·8	0	95	3	0·55	+0·01	*	*
	Cirencester	38	10	34·6	20·9	28·0	−11·0	0	98	3	0·53	−0·15	1·1	2
	Oxford	32	16	30·3	21·9	26·3	−13·1	0	110	4	0·43	−0·06	2·3	4
5. ENGLAND, S.	London	34	18	31·1	22·7	27·1	−12·2	0	104	6	0·76	+0·27	0·0‡	0‡
	Strathfield Turgiss ℌ	34	11	30·7	17·2	24·2	−15·0	0	125	4	0·57	+0·07	*	*
	Dungeness	39	15	35·3	23·1	29·4	−12·2	0	88	3	0·37	−0·35	4·7‡	
	Hastings (St. Leonards)	37	22	33·8	25·8	30·0	−11·5	0	84	3	0·42	−0·26	6·4	12
	Southampton	37	17	33·8	21·6	27·9	−11·7	0	99	4	1·28	+0·51	5·2	10
	Hurst Castle	39	19	35·4	25·4	30·6	−11·3	0	80	4	0·93	+0·30	*	*
	Stowell ℌ	38	15	32·6	23·7	28·3	−11·7	0	96	5	1·37	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	46	28	41·4	32·5	37·1	−3·1	0	34	5	0·39†	−1·73	*	*
	Glasgow	44	27	38·5	30·9	34·9	−4·2	0	50	3	0·15	−0·83	0·5	1
	Ardrossan	45	27	39·7	30·3	35·2	−3·8	0	48	2	0·02	−0·88	*	*
	Glenlee ☽	42	22	35·8	27·9	32·0	−6·6	0	70	2	0·08†	−1·30	*	*
	Douglas (Isle of Man)													
7. ENGLAND, N.W.	Newton Reigny	37	14	31·9	23·6	27·9	−10·1	0	99	0	—	−0·79	4·1	8
	Stonyhurst	35	17	32·3	24·6	28·6	−10·5	0	94	2	0·24	−0·86	2·4	5
	Blackpool ℌ	41	18	33·4	26·4	30·0	−11·2	0	84	3	0·10	−0·65	0·3	1
	Manchester	37	13	32·8	23·5	28·3	−11·2	0	96	2	0·09	−0·75	*	*
	Liverpool Obsy. (Bidston)	41	18	33·1	26·1	29·7	−11·0	0	86	3	0·20	−0·40	*	*
	Llandudno ℌ													
	Holyhead	46	29	38·9	30·4	34·8	−9·3	0	50	4	0·73	−0·14	*	*
8. ENGLAND, S.W.	Llandovery	37	15	34·0	23·3	28·9	−11·7	0	92	3	0·15	−1·08	*	*
	Pembroke	45	29	40·6	32·3	36·6	−6·5	0	38	3	0·73	−0·18	17·0	32
	Arlington (N. Devon)	42	23	36·1	26·9	31·7	−9·0	0	72	2	0·52	−0·88	*	*
	Cullompton ℌ	43	19	35·4	25·7	30·7	−10·5	0	79	5	1·12	+0·31	5·3	10
	Falmouth	47	28	42·9	32·6	38·0	−6·3	3	35	5	1·47	+0·27	10·4	19
	Plymouth	43	26	39·1	30·5	35·0	−8·0	0	49	4	2·34	+1·51	16·1	29
	Prawle Point	46	27	40·9	31·7	36·5	−6·5	0	39	4	1·65	?	*	*
9. IRELAND, N.	Malin Head	46	32	41·0	34·6	37·9	−2·9	0	29	4	0·69	?	*	*
	Londonderry	46	23	39·7	31·4	35·7	−5·0	0	44	3	0·77	−0·13	*	*
	Mullaghmore	46	31	42·6	35·6	39·2	−2·7	2	24	3	1·12	+0·17	*	*
	Belmullet	45	30	42·4	34·7	38·7	−5·2	1	27	6	1·16	?	*	*
	Markree Castle	45	22	40·2	28·6	34·6	−6·5	0	52	2	0·95	+0·16	9·4	19
	Brookeborough	44	19	38·9	28·8	34·1	−5·9	0	55	1	1·57	?	*	*
	Armagh	47	21	40·3	31·2	35·9	−4·4	0	43	3	0·81	+0·18	7·6	15
	Donaghadee	48	30	41·4	36·4	39·0	−2·3	0	21	4	0·71	+0·08	*	*
	Edgeworthstown	43	20	38·0	28·4	33·4	−6·6	0	60	2	0·58	−0·13	*	*
10. IRELAND, S.	Dublin	45	28	40·5	34·3	37·5	−3·8	0	32	2	0·38	−0·17	5·7	11
	Parsonstown	45	23	40·7	29·6	35·4	−4·8	0	46	2	0·25	−0·43	13·1	26
	Kilkenny	44	25	40·0	30·7	35·5	−4·5	0	46	2	0·75	+0·05	*	*
	Waterford	46	28	42·3	32·7	37·7	−4·5	1	34	2	0·93	+0·01	*	*
	Roche's Point	49	28	46·0	35·7	41·1	−2·0	11	27	3	0·66	−0·42	*	*
	Valencia	50	33	47·1	37·9	42·7	−2·9	22	11	6	2·91	+1·80	10·9	21
	Killarney	50	27	44·7	32·0	38·6	−4·8	8	39	5	1·47	?	*	*
	Foynes											?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	47	34	45·0	38·7	42·0	−5·1	8	9	3	0·79	−0·13	*	*
	Jersey	49	23	41·1	31·0	36·3	−7·3	0	40	4	0·76	−0·09	16·0	29

Stations marked ℌ are in connection with the Royal Meteorological Society, and those marked ☽ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

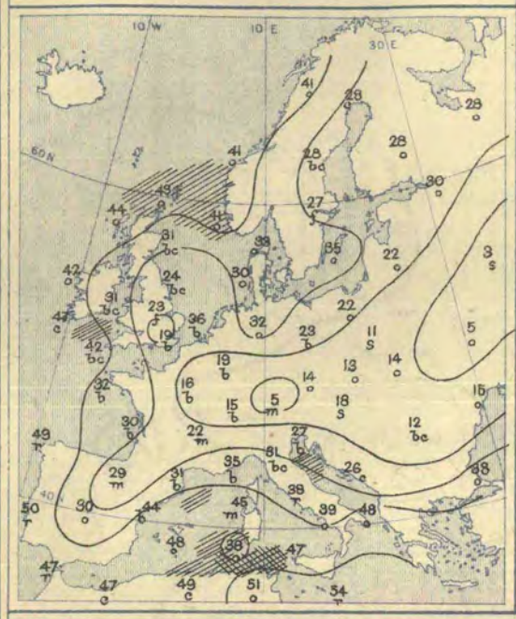
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 14th December.

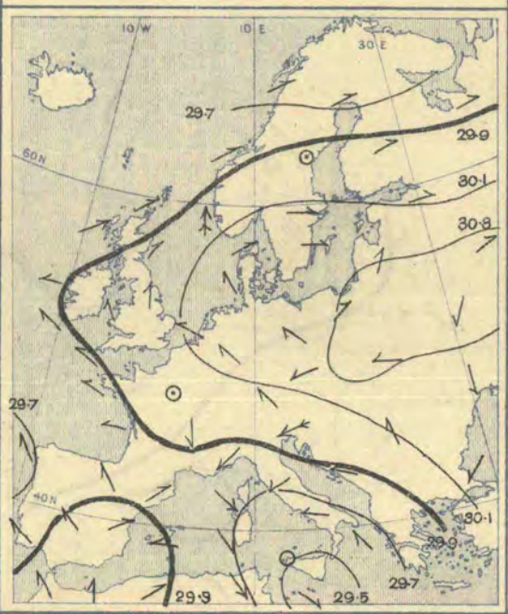
Temperature and Weather.

8 a.m.

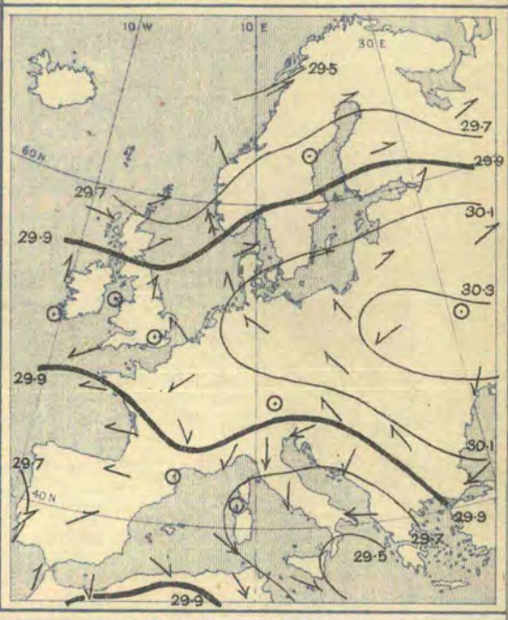


Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over the greater part of western and southern Europe, but foggy in several localities—more particularly over England. Cloudy or overcast elsewhere, with snow in some parts of Russia, Poland, and south Germany, and much rain on the Atlantic coasts of Spain and Portugal, as well as over certain parts of Italy, Sicily, and Malta. Rain later over Ireland, Scotland, and the West of Norway, as well as the Iberian Peninsula, snow over the south-east of England.

Temperature remaining very low for the time of year, but inclined to rise at the Irish stations, in the south-east of France, and northern Italy. Morning readings as low as (1) 3° Fahr. at Moscow, 5° at Kiev, 8° at Kharkov, 11° at Warsaw, 12° at Hermanstadt, 22° at Memel and Dantzic; (2) 5° at Munich, 14° at Prague, 15° at Belfort, 16° at Paris, 19° at Münster, and 23° at Berlin; (3) 14° at Loughborough, 16° at Oxford, 18° at Cambridge, 19° in London, and 23° at York. Not exceeding 22° in London and 28° at Paris all day, and falling again briskly at night. Rising above 45° in many parts of southern Europe and reaching 59° at San Fernando.

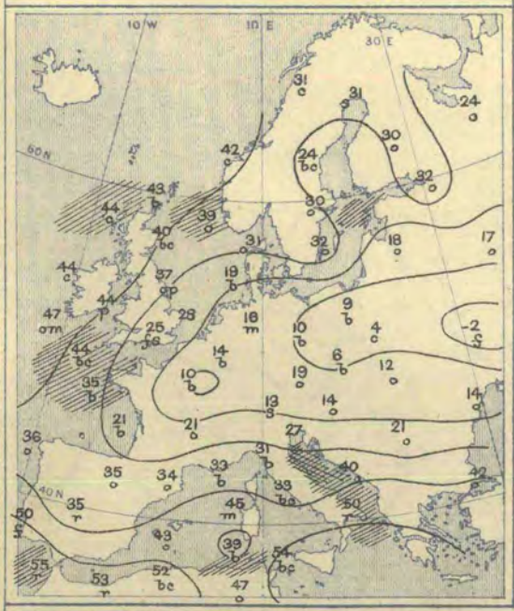
Wind moderate Easterly over Germany; mainly North-Easterly to North-Westerly over the northern shores of the Mediterranean and Adriatic, and fresh to a gale in force; moderate South-Easterly and Easterly on the shores of the Peninsula, west of France, and south-west of our Islands; South-Westerly in Scotland and Norway; light Westerly over Finland; light and variable elsewhere. Becoming Westerly and South-Westerly over the northern parts of our Islands later, and South-South-Easterly in the west of Norway, with a gale at Skudesnaes. Not much change occurring elsewhere.

Barometer highest, 30·3 ins. and more to 30·1 ins. in an anticyclone lying over central and eastern Europe. Lowest, 29·5 ins. and less both over the south-eastern parts of the Mediterranean and over Lapland, 29·7 ins. and less off Cape Finisterre, and 29·8 ins. and less to the north-west of Scotland. Falling decidedly over Scotland and the North Sea later, slightly over England. Mediterranean depression moving slowly eastwards.

Monday, 15th December.

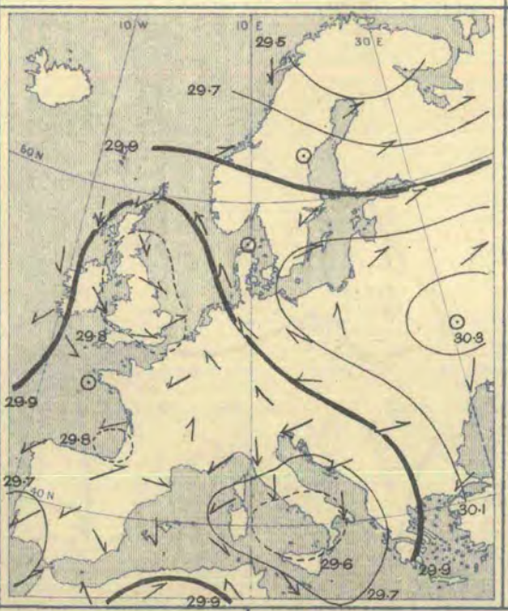
Temperature and Weather.

8 a.m.

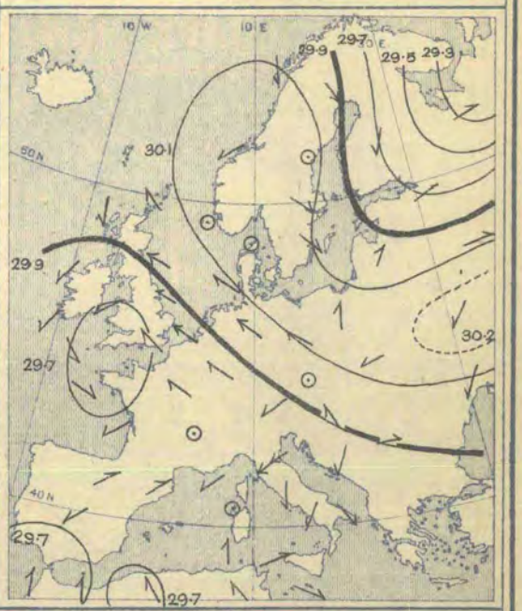


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in Scotland, as well as over the greater part of France, Germany, Italy, and Algeria. Cloudy or overcast elsewhere, with fog or mist in many parts of England, passing showers at some of our western stations, and rain at Madrid, San Fernando, Nemours, and Brindisi. Snow falling in London and at Cambridge, as well as Haparanda and Munich. Sky clearing later in Ireland, but snow falling during day in most parts of England, as well as in the north of Russia, and rain in Scotland.

Temperature highest, 55° at San Fernando, 54° at Malta, 53° at Nemours, 52° at Algiers, and 51° at Oran: above 45° in the south-west of Ireland, and very little below that point in the west and extreme north of our Islands generally. Lowest, −2° Fahr. at Kiev, +4° at Warsaw, 6° at Breslau, Cracow, and Kharkov, 9° at Neufahrwasser, and 10° at Memel, Berlin, and Paris; lowest in our Islands, 19° at Dungeness and 21° at Hurst Castle. Daily maxima below 32° at some of the English stations and below 20° in many parts of Germany, but thermometer exceeding 45° in the west and north of the United Kingdom, and exceeding 59° in the southern parts of Spain and Italy.

Wind moderate from the Northward in the west and north of our Islands generally, but strong to a gale at Stornoway; light from the Westward or South-Westward in the south and east of England, moderate from the South-Eastward over Denmark, Germany, and the Netherlands. Light or moderate from the South-Westward or Westward over the northern parts of Russia and Scandinavia, fresh or strong from the Northward or North-Westward in Italy; North-Easterly in France and Spain, Southerly or South-Easterly in Algeria. Easterly breezes setting in later in most parts of Great Britain, but wind shifting to the Westward in the west of France.

Barometer highest, 30·1 ins. to 30·3 ins. in an anticyclone lying over eastern Germany and the southern half of Russia. Lowest, 29·5 ins. and less in a depression lying over the north of Scandinavia, 29·6 ins. and less in another disturbance over Italy, 29·7 ins. and less in a third lying off the south-west of Spain, and 29·8 ins. and less in a fourth system covering the greater part of England and Scotland. Depression over our Islands subsequently moving steadily southwards and barometer rising on our north and north-east coasts.

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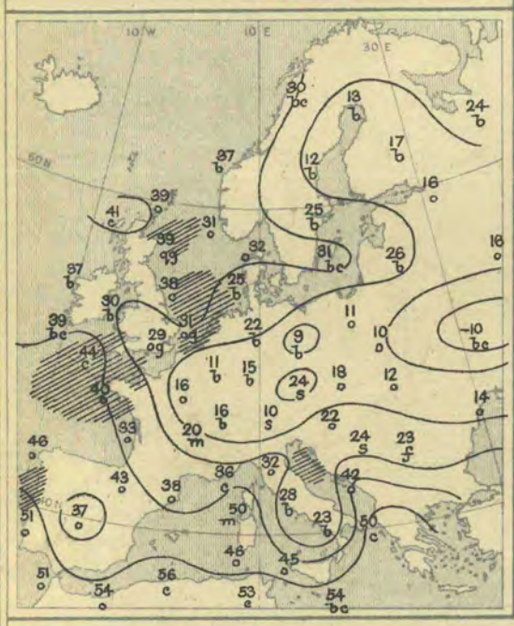
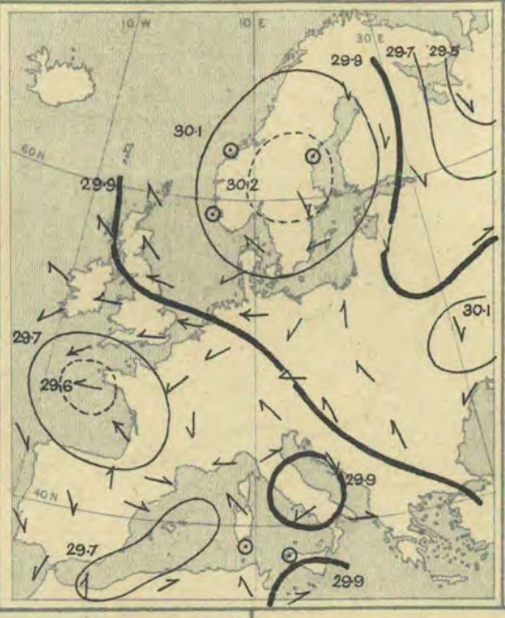
Tuesday, 16th December.

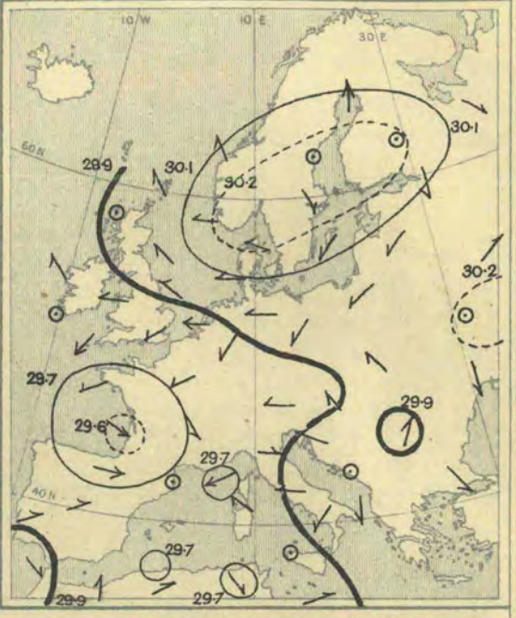
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine and bright in the west of Ireland and on some parts of the English coasts, as well as in Scandinavia, Finland, the Baltic, the north and west of Germany, the Netherlands, and central Italy. Cloudy or overcast elsewhere, with mist at several of the English stations, and snow at Cambridge, as well as in south Germany and some parts of Austria. Snow falling later in many parts of France and heavy rain at some of the Spanish and Algerian stations.

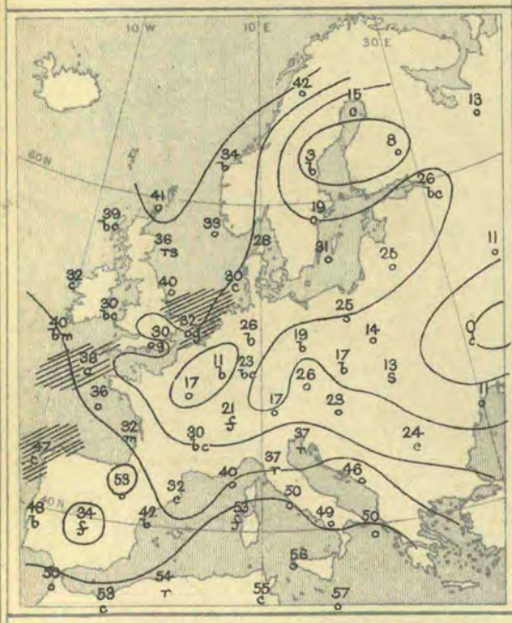
Temperature highest, 56° at Algiers, 54° at Nemours, Oran, and Malta, 53° at La Calle, and 51° at Lisbon and San Fernando; above 45° over the central and southern parts of the Mediterranean generally, as well as on the Spanish coasts. Lowest, −11° Fahr. at Kiev, +1° at Kharkov, 8° at Swinemunde, 9° at Berlin, and 10° at Warsaw and Munich; below 20° in nearly all parts of northern, eastern, and central Europe, and as low as 23° even at Naples. Daily maxima below the freezing point in the south and east of England, and below 20° in some parts of Germany, but thermometer exceeding 50° in the extreme south of Europe and exceeding 60° in Algeria.

Wind Easterly over England, the south of Ireland, Denmark, the Netherlands, and the greater part of France and central Europe, light or moderate in force generally, but strong on some parts of the English coasts. Moderate from the South-Eastward in Scotland and the north of Ireland. Light from the Northward over the greater part of Sweden, Russia, Spain, and Italy, but Southerly in Algeria. Subsequently shifting to the North-Westward or Westward in the west of France, but no important change occurring elsewhere.

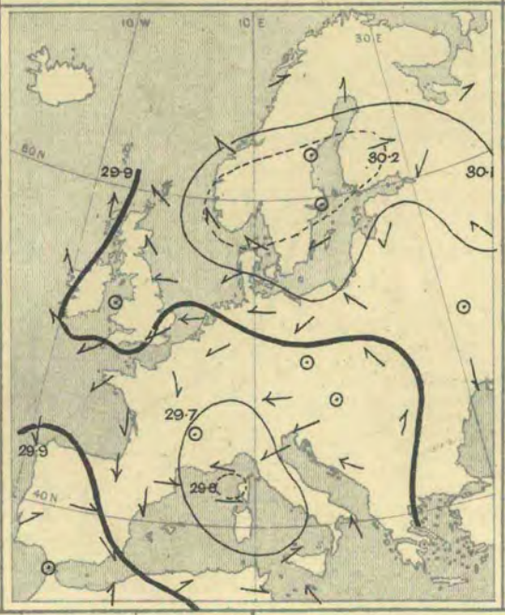
Barometer highest, 30·1 ins. to 30·2 ins. and upwards in a large anticyclone lying over Scandinavia, and also in a smaller system over the south of Russia. Lowest, 29·5 ins. and less in a depression lying over the north of Russia, 29·6 ins. and less in another system lying over the Bay of Biscay and the north-west of France. Latter disturbance subsequently moving eastwards over France; no material change observed elsewhere.

Wednesday, 17th December.

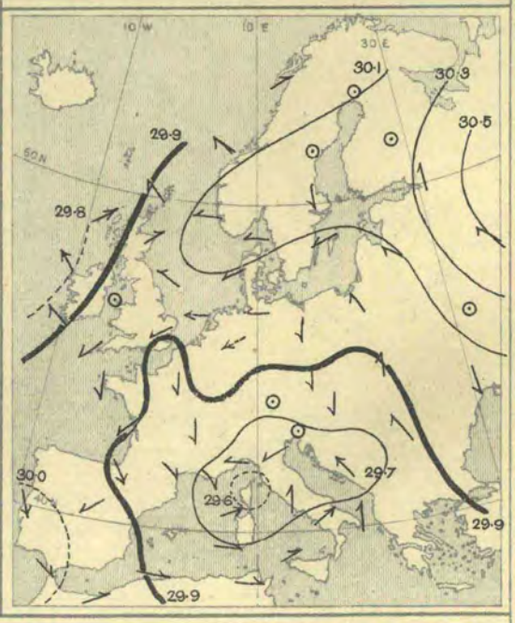
Temperature and Weather. — 8 a.m.



Barometer and Wind. — 8 a.m.



Barometer and Wind. — 6 p.m.



Weather fine in the west and extreme north of our Islands, as well as in Scandinavia, Denmark, north Germany, and the Netherlands. Dull elsewhere, with fog at some of the French and Spanish stations, rain in the north of Italy and at Algiers, sleet showers at Aberdeen, and snow at Lemberg. A little snow falling later at many of the English stations and heavy rain in some parts of Algeria.

Temperature highest, 57° at Malta, 58° at Palermo, 55° at La Calle and Tunis, and 54° at Algiers; above 50° over the southern and central parts of the Mediterranean generally, as well as at Biarritz. Lowest, (1) 0° zero Fahr. at Kiev, 3° at Hernösand, 8° at Kuopio, and 11° at Moscow and Odessa; (2) 11° at Brussels, 17° at Paris and Munich, and 20° at Havre; (3) 23° at Parsonstown; below 20° in many parts of northern, eastern, and central Europe, and below 32° at most of the English stations. Daily maxima over England very little above the freezing point; thermometer remaining below 32° in most parts of the Continent, but exceeding 50° in the extreme south.

Wind light from the South-East over Ireland, Scotland, and the west of Norway, but from the Eastward or North-Eastward over England, central Europe, and the north of Russia. Light from the Northward over Spain and the west of France, but Southerly in Algeria and South-Easterly or Easterly in Italy. Variable over Austria, the south of Russia, and the central and southern parts of France. South-Easterly winds freshening later in the west of Ireland, but no important change occurring elsewhere.

Barometer highest, 30·2 ins. and upwards in an anticyclone lying over Scandinavia and Finland, 30·0 ins. and upwards in another system lying over Portugal. Lowest, 29·7 ins. and less in a large shallow depression extending from central France to Sardinia and the west of Italy. Decided fall taking place later in the extreme west of our Islands, and depressions beginning to advance from Atlantic. Disturbance over southern Europe moving slowly southwards.

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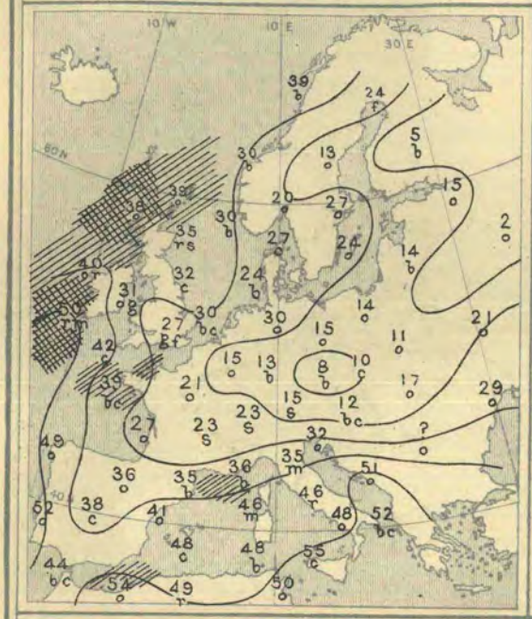
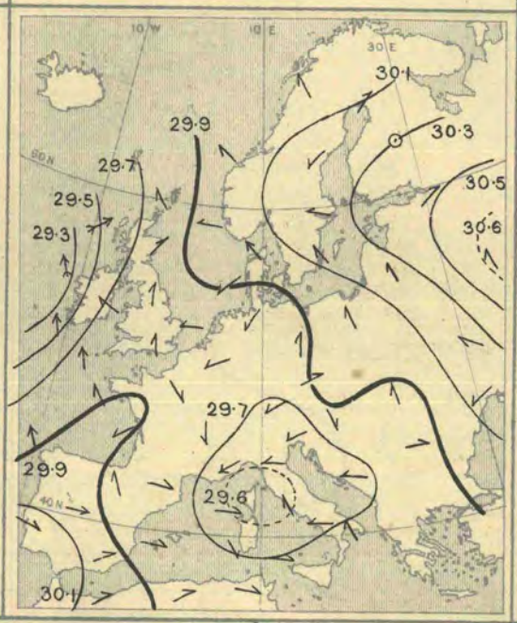
Thursday, 18th December.

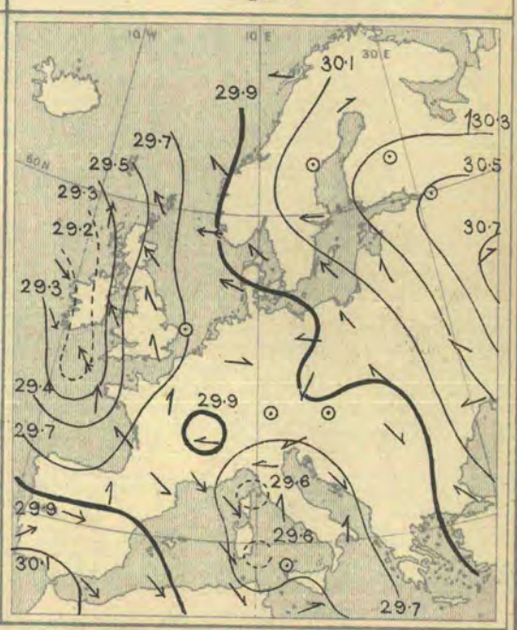
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather dull in most parts of our Islands and the Continent, but fine in some parts of southern Europe; fog reported in the south of England, rain falling in the west of Ireland, as well as in some parts of Italy and Algeria, sleet showers at Aberdeen, and snow at Munich, Belfort, and Lyons. Heavy rain falling later in the western parts of our Islands and France (1·4 ins. at Valencia Island, 0·9 in. at Mallaghmore, and 0·7 in. at Belmullet); snow setting in over England at night.

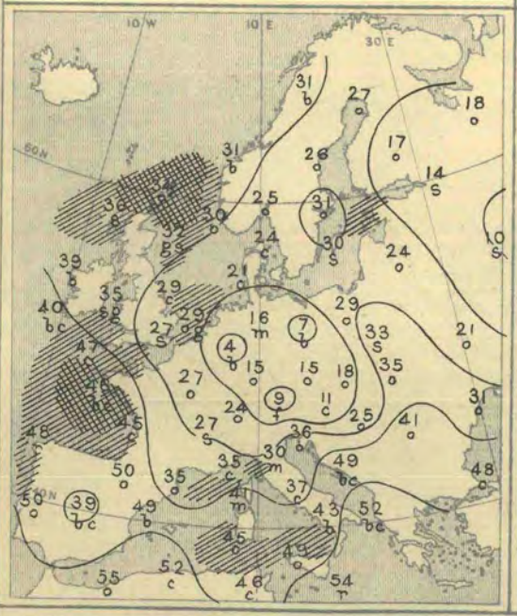
Temperature highest, 55° at Palermo, 54° at Nemours, 53° at San Fernando, and 52° at Brindisi, Lisbon, and La Calle, exceeding 45° at most of the Mediterranean and Spanish coast stations, and reaching 50° at Valencia Island. Lowest, 2° at Moscow, 5° at Kuopio, 8° at Prague, 10° at Cracow, 11° at Warsaw, and 1°0 at Vienna; below 20° in many parts of Sweden, Russia, and central Europe, and below the freezing point at most of the English stations. Daily maxima at or below 32° in many parts of England, and below 20° in some parts of central Europe, but exceeding 50° in the southern countries.

Wind strong to a gale from the Southward or South-Eastward in Ireland and the north of Scotland, and moderate or fresh from the same quarters in the west and north of our Islands generally, as well as over the Bay of Biscay and north of Spain. Light or moderate from the Eastward over Russia, the Baltic, Denmark, the south of Scandinavia, the Netherlands, and the south-east of England. South-Easterly in Italy, South-Westerly in Algeria, and Westerly in the south of Spain, but variable in Austria. Subsequently increasing to a moderate or fresh gale from the South-Eastward in the west and south-west of England and from the Eastward in the south of Norway, but shifting to the North-Westward in Ireland.

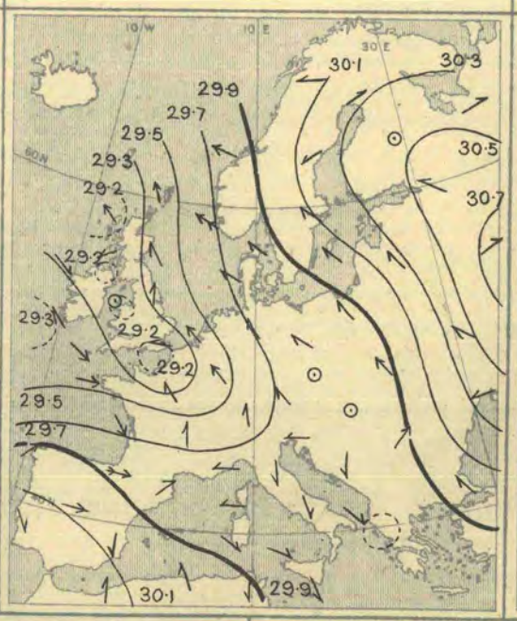
Barometer highest, 30·6 ins. and upwards in an anticyclone lying over central Russia, 30·1 ins. and upwards in a smaller system lying over the south-west of Spain. Lowest, 29·3 ins. and less in a deep depression off the west of Ireland, 29·6 ins. and less in a shallow depression lying over Corsica and the Gulf of Genoa. Depression in west subsequently advancing as a "V"-shaped system directly over our western coasts, and barometer rising again in the west of Ireland.

Friday, 19th December.

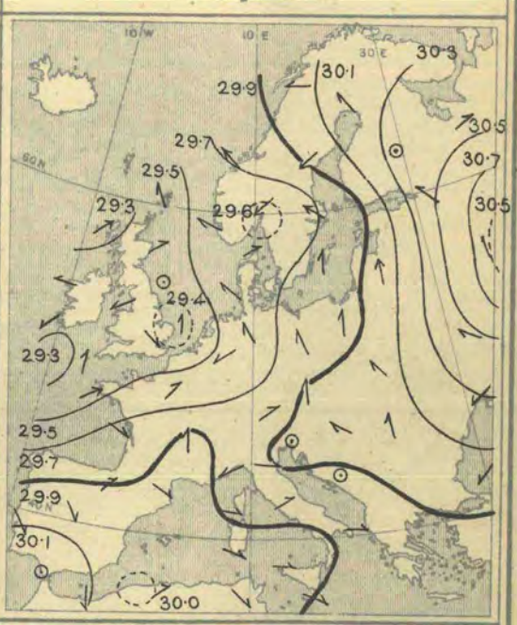
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine in Ireland, as well as in Denmark, north Germany, the west of Norway, and the greater part of southern Europe. Dull elsewhere, with heavy snow over England, and also over central Russia and some parts of France and Belgium. Some improvement taking place later in the west and south of England, but snow continuing to fall in the east. Heavy rain setting in at Valencia Island in evening, as well as in some parts of Spain.

Temperature highest, 55° at Oran, 54° at Malta, and 52° at Brindisi and Algiers; above 45° at most of the Mediterranean stations, as well as on the coasts of the Iberian Peninsula. Lowest, (1) 4° at Münster, 7° at Berlin, 9° at Munich, 11° at Vienna, and 13° at Swinemunde; (2) 10° at Moscow and Kharkov, 14° at St. Petersburg, 15° at Uleaborg, and 17° at Kuopio; below 20° in many parts of Russia and central Europe, and below the freezing point over the greater part of the United Kingdom. Frost continuing over England all day, but thermometer exceeding 45° at many of the French stations and exceeding 50° over southern Europe.

Wind strong to a gale from the Westward over the Bay of Biscay and the western parts of the English Channel, moderate to fresh from the same quarter in Spain. Moderate to strong from the Southward over all the more northern and eastern parts of the United Kingdom, as well as over northern and central Europe. Light from the Northward in Italy, variable in Austria and the south of France, Southerly in Algeria. Gale in Channel subsiding later, wind falling light and variable on our western coasts.

Barometer highest, 30·7 ins. and upwards in a large anticyclone lying over Russia, 30·1 ins and upwards in another system lying over the south of Spain. Lowest, 29·2 ins. and less in four small depressions lying respectively off the north-west of Scotland, and over the north of Ireland, north Wales, and the eastern parts of the English Channel. Depression over Channel moving north-eastwards later across the south-east of England; disturbances in west and north-west either filling up or passing away to the northward, but new system appearing off south of Ireland in evening.

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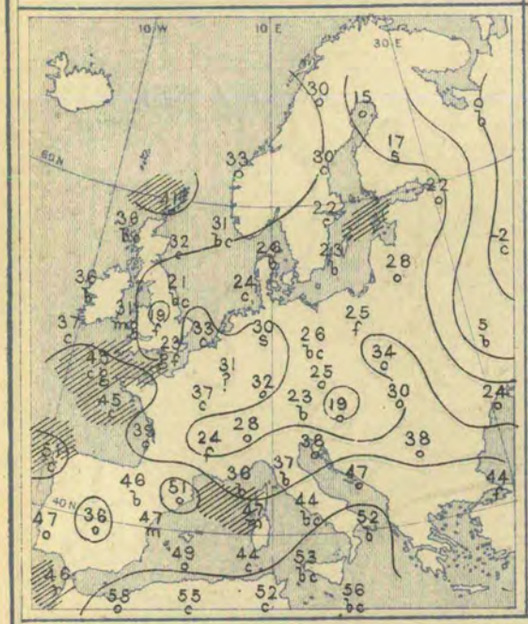
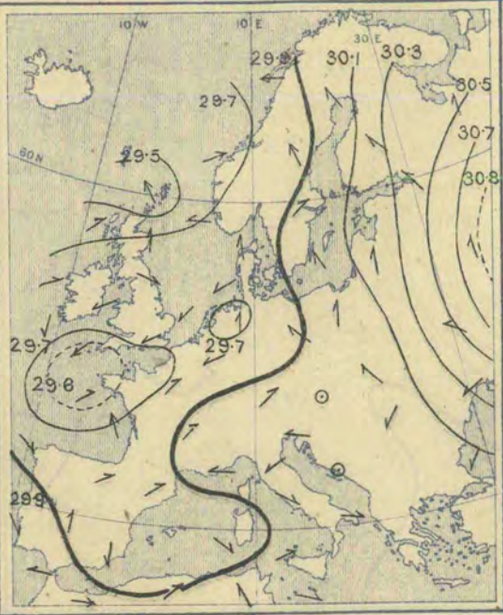
Saturday, 20th December.

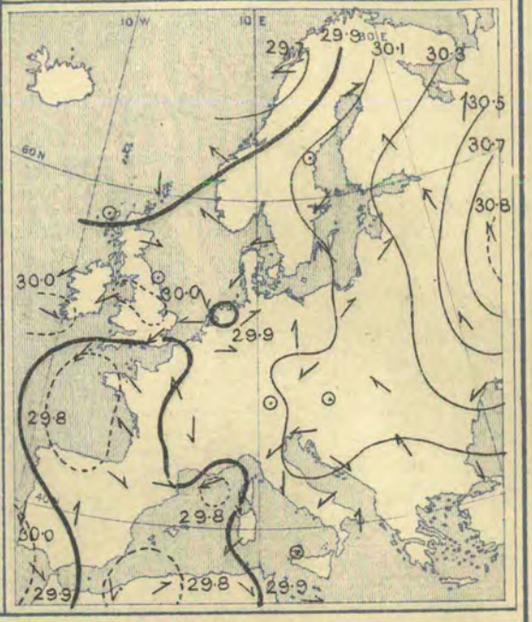
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather cloudy or overcast generally, with fog in many parts of England and France, rain at the Channel stations, and snow in Finland, as well as over the Netherlands and some parts of France and Austria. Fine in the north and east of England, and also over Italy and the south of Scandinavia. Heavy snow falling later in the south of England and very heavy rain in the south of France, the largest amounts measured in the latter region being 2·9 ins. at Cette and 2·6 ins. at Perpignan.

Temperature highest, 56° at Malta, 55° at Oran and Algiers, 54° at Nemours, and 53° at Palermo; above 45° at most of the Mediterranean stations, as well as on the Spanish coasts. Lowest, −2° Fahr. at Moscow, 0° zero at Archangel, +5° at Kiev, and 6° at Cracow and Kharkov; below 20° at most of the Russian stations, and as low as 19° even at Liverpool. Daily maxima below 32° in many parts of England, but thermometer exceeding 50° over southern Europe and exceeding 60° in Algeria and the south of Italy.

Wind light or moderate from the Southward over France, North-Easterly over the southern parts of the United Kingdom, with a strong breeze in the Channel; light from the North-Westward in Spain. Southerly or South-Easterly over the greater part of northern, eastern, and central Europe, with a gale at Hernösand. Light or moderate from the South-Westward in the north of our Islands. Light from South-West in Algeria and from West in Italy. Strong winds in Channel subsiding later.

Barometer highest, 30·8 ins. and upwards in an anticyclone lying over central Russia. Lowest, 29·5 ins. and less in a depression lying off the north of Scotland, and also in another disturbance lying near the mouth of the Channel, 29·7 ins. and less in a third system lying near the mouth of the Elbe. Depressions all filling up later. Barometer rising steadily over the whole of western Europe, an anticyclone advancing over our Islands from the westward.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the week a large high-pressure system has prevailed almost continuously over Russia, and has frequently extended in a westerly direction across central Europe, the Baltic, and North Sea to our Islands and France. Over our Islands, however, the anticyclonic conditions have at times given way to depressions, one of which passed in a southerly direction immediately over England to the Bay of Biscay, while another appeared for a time off our western coasts, and then broke up without spreading inland. Thus, while very hard frost has continued over Russia, and the weather has been very cold generally, the conditions over Germany, France, and the British Islands have alternated from severe cold to temperature a few degrees above the freezing point, and in the extreme west to brief spells of really mild weather. Rain has fallen in these latter regions, and also over Algeria; a good deal of snow has been reported over England and France, and at the close of the period this was still lying, unthawed.

WEEKLY WEATHER REPORT, 1890.

The following Appendix and Supplement to this Report have been published:—

APPENDIX I., Parts I. and II.—**Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March, April-June, and July-September,** *price* **4d.** *each.*

SUPPLEMENT.—**Monthly Summary of Observations, January, February, March, and April,** *price* **6d.** *each.*

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WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 52]. *Third Series.* WEEK ENDING SATURDAY, 27TH DECEMBER, 1890. [*Price 6d.* [*Annual subscription, post paid*, £1 10s. 0d.

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 308.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	48	21	41·6	31.3	36·6	2 below.	0	− 6	38	+ 4	2092	+202	674	−111
	1. SCOTLAND, EAST	47	15	38·5	28·5	33·7	3 below.	0	− 7	58	+15	2438	+ 39	833	− 39
	2. ENGLAND, N.E.	42	14	35·4	27·3	31·5	7 below.	0	− 7	74	+35	2729	+146	712	− 43
	3. ENGLAND, EAST	39	4	32·4	20·7	26·8	12 below.	0	− 8	106	+65	3013	+ 47	923	+136
	4. MIDLAND COUNTIES	36	6	31·4	21·7	26·8	12 below.	0	− 9	106	+65	2954	+ 23	937	+126
	5. ENGLAND, SOUTH	40	8	34·3	25·0	29·9	10 below.	0	−12	85	+53	3285	+ 34	675	+ 86
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	48	15	39·7	30·6	35·4	4 below.	0	− 9	46	+14	2638	+ 89	542	− 90
	7. ENGLAND, N.W.	45	13	36·7	27·8	32·4	8 below.	0	−10	67	+36	2850	+130	598*	+ 9
	8. ENGLAND, S.W.	47	12	39·1	29·8	34·7	8 below.	0	−18	51	+32	3116	− 74	468	+118
	9. IRELAND, NORTH	49	14	41·5	30·5	36·3	5 below.	0	−12	40	+10	2770	+111	461	−104
	10. IRELAND, SOUTH	53	18	43·0	30·5	37·0	5 below.	3	−16	43	+19	3173	+109	335	− 25
	— CHANNEL ISLANDS	50	27	42·4	36·2	39·4	6 below.	1	−24	21	+13	3563	+ 16	186	+ 60

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 308.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH	4	3	6 less.	261	+28	54·9	+ 0·9	6	14	1033	−183	23	− 4
	1. SCOTLAND, EAST	4	3	4 less.	218	+24	32·9	− 0·1	7	16	1257	−141	29	− 3
	2. ENGLAND, N.E.	5	6	0 (average).	190	0	24·9	− 3·6	4	8	1246	− 23	28	− 1
	3. ENGLAND, EAST	2	1	4 less.	182	−13	23·0	− 3·6	4	9	1566	+ 24	36	+ 1
	4. MIDLAND COUNTIES	3	2	4 less.	180	− 7	22·4	− 8·1	4	7	1365	− 17	31	0
	5. ENGLAND, SOUTH	2	1	5 less.	177	− 3	25·4	− 3·3	6	13	1487	+ 7	34	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST	4	5	4 less.	222	+15	53·2	− 1·9	4	8	1300	− 30	30	0
	7. ENGLAND, N.W.	4	4	4 less.	208*	+13	35·2*	− 1·0	6	11	1249	− 73	28	− 2
	8. ENGLAND, S.W.	4	10	1 less.	216	+ 9	38·0	− 7·0	5	9	1524	− 74	34	− 2
	9. IRELAND, NORTH	3	2	6 less.	243	+12	38·6	+ 1·7	13	27	1258	− 5	29	0
	10. IRELAND, SOUTH	4	4	5 less.	226	+12	41·1*	+ 0·9	15	29	1395	− 53	32	− 1
	— CHANNEL ISLANDS	3	7	2 less.	212	−13	32·9	− 1·7	21	38	1828	− 59	42	− 1

General Remarks.

Weather during this week was extremely cold and winterly over England, with overcast skies and occasional slight falls of snow. Over Ireland and Scotland, however, it was more variable, and at times mild; in Ireland some bright intervals were experienced.

Temperature has ranged from 7° to 12° below the mean in the English districts and from 2° to 4° in Scotland, while in both the Irish districts the deficit has been 5°. The thermometer was generally lowest during the night of the 21st–22nd, when the sheltered instrument fell to within six-tenths of a degree of zero (Fahr.) at Stokesay (Salop), to 4° at Cambridge, 6° at Hereford, 7° at Loughborough and Rothamsted, and 8° at Strathfield Turgiss, Oxford, and Hillington. In Ireland the minima varied between 14° and 18° and in Scotland between 15° and 21°. In the "Channel Islands" the lowest reading was 27°. The highest of the maxima, which were recorded on irregular dates, ranged from 53° in "Ireland S." to 39° in "England E.," and 36° in the "Midland Counties." In many instances the maxima at the more central stations were below 32°.

Rainfall has just equalled the mean in "England N.E.," but in all other districts it has been less; over eastern and southern England and in the north of Ireland the fall has been very slight.

Bright Sunshine has again been very deficient over Great Britain, but shows an increase in Ireland and the Channel Islands. The percentage of the possible duration has ranged from 8 to 16 in the former region, while over Ireland it varied from 27 to 29, and in the "Channel Islands" was as high as 38.

Barometer and Wind.—The distribution of barometric pressure has been generally anti-cyclonic over the greater part of the Kingdom, but some low-pressure systems have at times appeared over our western and northern coasts. The winds have consequently varied somewhat in direction in Ireland and Scotland, but over England they have continued chiefly from the North-Eastward or Northward. In force they have been light generally, but occasionally increased to a strong breeze in the extreme west and north.

* This value has been altered owing to the receipt of further information.

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36 350 12 | 90 607

III.—DATA from which the SUMMARY on page 307 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head	47	32	43·3	36·9	40·2	+ 0·1	4	19	7	0·43	−0·52	*	*
	Stornoway	48	29	43·9	34·1	39·2	− 0·2	5	30	4	0·07	−1·18	12·3	28
	Wick	45	26	41·7	33·1	37·6	− 1·5	0	31	4	0·53	−0·13	*	*
	Lairg ℌ	45	21	39·2	24·6	32·2	− 5·4	0	69	4	0·42	−0·49	*	*
	Glencarron ℌ	48	24	40·7	28·0	34·6	− 3·2	0	52	4	0·54†	−1·71	*	*
	Fort Augustus ℌ	46	23	40·2	29·8	35·2	− 3·7	0	48	2	0·08†	−1·04	1·3	3
	Fort William ℌ	47	26	41·9	32·4	37·3	− 2·4	0	33	3	0·25‡	−1·93	5·4	12
1. SCOTLAND, E.	Nairn	47	25	41·6	30·3	36·2	− 1·9	0	41	2	0·08	−0·40	*	*
	Aberdeen	42	15	38·0	28·4	33·4	− 4·2	0	60	5	0·57	−0·13	10·8	23
	Braemar ℌ	41	16	35·0	26·6	31·0	− 3·5	0	77	2	0·03	−0·68	6·8‡	15‡
	Ochtertyre ℌ	45	24	38·4	28·9	33·8	− 3·7	0	57	3	0·29	−0·80	*	*
	Leith	44	22	40·3	29·7	34·7	− 3·5	0	51	4	0·28	−0·17	2·1‡	4‡
	Marchmont ℌ	40	21	37·4	28·3	33·0	− 3·0	0	63	5	0·74	−0·02	10·0	21
2. ENGLAND, N.E.	Alnwick Castle	41	20	36·9	29·9	33·5	− 4·6	0	60	6	1·26	+0·56	*	*
	Durham	40	19	35·4	26·9	31·3	− 6·8	0	75	5	0·84	+0·16	5·1	10
	Shields	42	21	38·3	27·9	33·3	− 5·8	0	61	5	0·71	+0·13	*	*
	Scarborough ℳ	39	23	34·3	28·4	31·5	− 6·6	0	74	5	0·47	−0·14	7·5‡	15‡
	York	38	14	33·4	22·7	28·3	− 9·9	0	96	4	0·33	−0·18	0·0	0
	Spurn Head	37	25	34·1	28.1	31·2	− 7·1	0	76	2	0·16	?	*	*
3. ENGLAND, E.	Hillington ℳ	34	8	31·0	13·8	25·1	−12·9	0	118	2	0·06	−0·49	5·5	11
	Yarmouth	37	25	34·4	27·7	31·2	− 7·9	0	76	2	0·25	−0·36	*	*
	Geldeston	39	13	34·4	22·1	28·5	−10·7	0	95	2	0·18	−0·31	6·4	12
	Cambridge	34	4	30·1	16·3	23·5	−15·0	0	130	2	0·05	−0·38	4·6	9
	Rothamsted	34	7	31·9	18·5	25·5	−12·7	0	116	2	0·04	−0·55	1·1	2
4. MIDLAND COUNTIES	Bawtry (Hesley Hall)	36	12	32·3	24·0	28·3	−10·9	0	96	3	0·14	−0·38	6·2‡	12‡
	Loughborough	34	7	29·6	18·1	24·1	−14·0	0	125	4	0·13	−0·39	3·0‡	6‡
	Cheadle ℳ	36	20	31·6	23·7	27·8	−10·1	0	99	5	0·39	−0·33	*	*
	Churchstoke ℳ	36	9	32·2	22·7	27·6	−10·8	0	101	1	0·29	−0·41	5·5	11
	Hereford ℳ	36	6	32·9	21·8	27·6	−11·1	0	101	5	0·27	−0·23	*	*
	Cirencester	?	?	?	?	?	?	?	?	3	0·14	−0·55	2·6	5
	Oxford	33	8	29·9	20·0	25·2	−14·0	0	118	3	0·08	−0·42	0·4	1
5. ENGLAND, S.	London	37	14	33·3	22·1	27·9	−11·6	0	99	1	0·04	−0·46	0·0‡	0‡
	Strathfield Turgiss ℳ	36	8	31·1	19·9	25·7	−13·4	0	114	2	0·08	−0·44	*	*
	Dungeness	40	26	36·3	30·4	33·5	− 7·7	0	60	1	0·01	−0·69	7·3‡	14‡
	Hastings (St. Leonards)	39	26	35·2	29·3	32·4	− 8·7	0	67	0	—	−0·68	7·5	14
	Southampton	37	17	34·0	24·1	29·3	−10·1	0	89	3	0·19	−0·53	7·4	14
	Hurst Castle	39	20	36·9	27·9	32·6	− 8·9	0	66	2	0·05	−0·58	*	*
	Stowell ℳ	35	12	33·1	21·6	27·6	−12·4	0	101	3	0·31	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart)	48	29	42·3	33·3	38·0	− 2·0	1	32	5	0·31†	−1·82	*	*
	Glasgow	44	23	39·0	29·5	34·4	− 4·5	0	53	4	0·23	−0·75	3·7	8
	Ardrossan	48	28	41·6	31·7	36·9	− 2·1	0	36	2	0·12	−0·81	*	*
	Glenlee ℌ	39	15	35·2	26·4	31·0	− 7·4	0	77	4	0·46†	−1·03	*	*
	Douglas (Isle of Ma)	44	20	40·4	32·2	36·5	− 4·5	0	39	5	1·41	+0·41	3·8	8
7. ENGLAND, N.W.	Newton Reigny	39	16	34·3	26·5	30·6	− 7·0	0	80	4	0·30	−0·50	1·7	3
	Stonyhurst	39	13	35·6	25·9	30·9	− 8·0	0	78	3	0·42	−0·86	8·4	17
	Blackpool ℳ	39	18	35·3	25·6	30·6	−10·5	0	80	2	0·06	−0·67	6·9	14
	Manchester	39	19	34·9	27·2	31·2	− 8·2	0	76	4	0·28	−0·54	*	*
	Liverpool Obsy. (Bidston)	44	17	36·7	25·3	31·2	− 9·3	0	76	5	0·44	−0·15	*	*
	Llandudno ℳ	43	20	39·5	30·3	35·1	− 7·1	0	48	3	0·43	−0·29	?	?
	Holyhead	45	26	40·9	33·7	37·4	− 5·7	0	32	4	0·88	+0·03	*	*
8. ENGLAND, S.W.	Llandovery	38	12	35·7	21·9	29·1	−11·4	0	90	4	0·59	−0·63	*	*
	Pembroke	45	29	41·4	33·3	37·5	− 5·6	0	32	3	1·27	+0·36	5·7	11
	Arlington (N. Devon)	39	21	36·7	26·6	31·9	− 8·7	0	71	3	0·81	−0·49	*	*
	Cullompton ℳ	39	20	35·2	26·2	30·9	−10·3	0	78	5	0·59	−0·21	0·8	1
	Falmouth	47	32	42·6	36·0	39·4	− 4·7	2	22	5	1·86	+0·63	3·8	7
	Plymouth	47	29	42·0	32·3	37·3	− 5·6	0	33	4	0·87	+0·01	8·1	15
	Prawle Point	44	29	40·3	32·6	36·6	− 6·0	0	38	4	0·91	?	*	*
9. IRELAND, N.	Malin Head	47	33	43·4	36·1	39·9	− 0·6	4	23	2	0·02	?	*	*
	Londonderry	47	20	40·5	30·1	36·5	− 4·2	0	39	5	0·17	−0·73	*	*
	Mullaghmore	49	28	44·0	34·3	39·3	− 2·8	6	29	2	0·06	−0·86	*	*
	Belmullet	49	31	44·4	33·9	39·4	− 4·7	7	32	4	0·24	?	*	*
	Markree Castle	47	23	40·2	27·0	33·9	− 7·3	0	57	4	0·06	−0·73	13·8	28
	Brookeborough	48	14	40·2	24·7	32·8	− 7·2	0	64	2	0·17	?	*	*
	Armagh	47	16	39·7	26·9	33·6	− 6·6	0	59	3	0·15	−0·48	12·8	26
	Donaghadee	48	26	44·0	34·1	39·3	− 1·8	6	31	4	0·31	−0·34	*	*
	Edgeworthstown	46	20	37·1	27·1	32·3	− 7·6	0	68	5	0·26	−0·44	*	*
10. IRELAND, S.	Dublin	48	24	41·9	32·5	37·4	− 3·7	0	32	4	0·24	−0·29	8·0	16
	Parsonstown	47	20	40·0	24·7	32·7	− 7·4	0	65	1	0·07	−0·62	12·1	24
	Kilkenny	47	18	40·6	27·9	34·5	− 5·4	0	53	4	0·38	−0·34	*	*
	Waterford	49	24	43·5	31·7	37·8	− 4·4	4	39	3	1·30	+0·33	*	*
	Roche's Point	49	32	45·7	35·4	40·8	− 2·3	10	27	2	0·50	−0·62	*	*
	Valencia	53	32	47·4	35·3	41·6	− 3·8	15	29	7	0·55	−0·83	24·9	47
	Killarney	52	21	42·4	27·0	35·0	− 8·3	1	55	3	0·35	?	*	*
	Foynes	50	25	42·5	29·6	36·3	− 5·6	1	46	5	0·14	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's)	50	39	45·9	40·6	43·4	− 3·7	16	4	5	1·32	+0·40	*	*
	Jersey	45	27	38·9	31·7	35·4	− 7·9	0	46	0	—	−0·81	21·2	38

Stations marked ℳ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

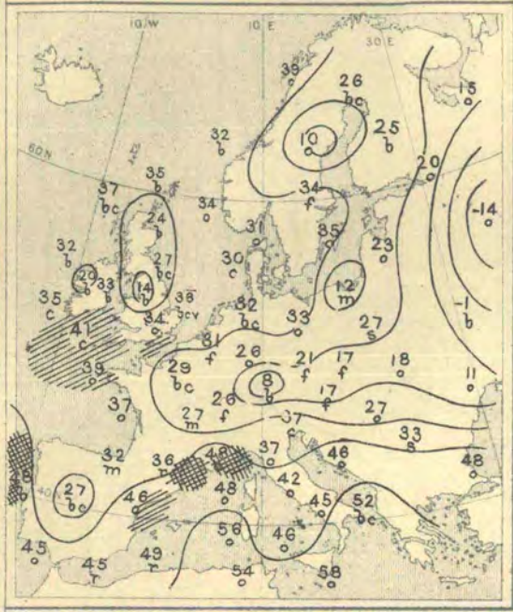
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

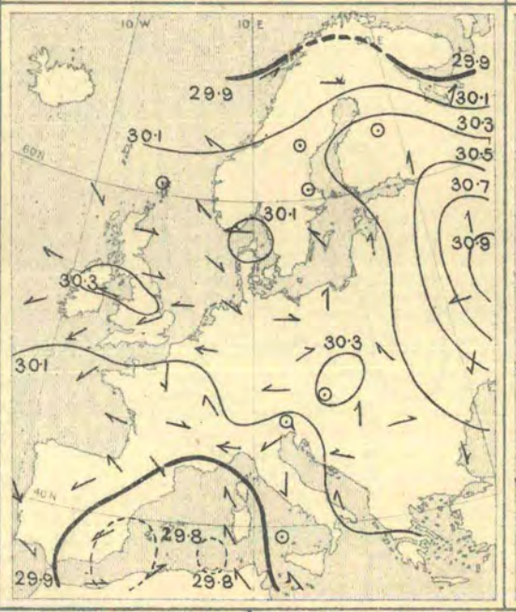
‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

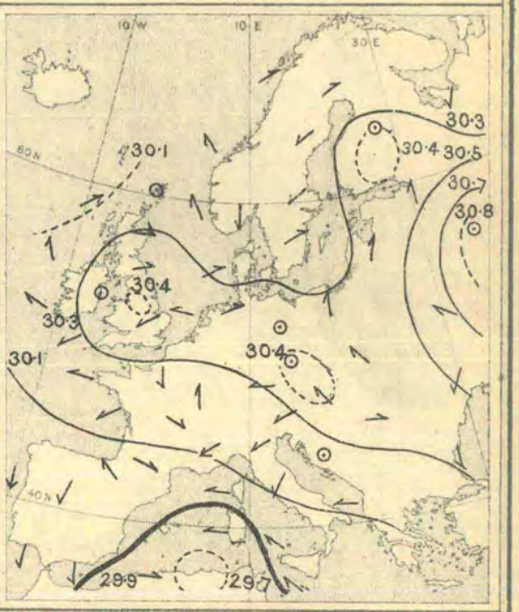
II.—SUMMARY OF WEATHER OVER EUROPE.

Sunday, 21st December.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather fine over the greater part of the United Kingdom, as well as in the north of Scandinavia, the south of Russia, and some parts of Spain. Dull elsewhere, with fog in many parts of central Europe, rain in the extreme south of France, snow at Helsingfors, Warsaw, and Hermanstadt. Fog setting in later over the north of England, sky becoming overcast on our extreme west and north-west coasts, and heavy rain falling on the various shores of the Mediterranean.

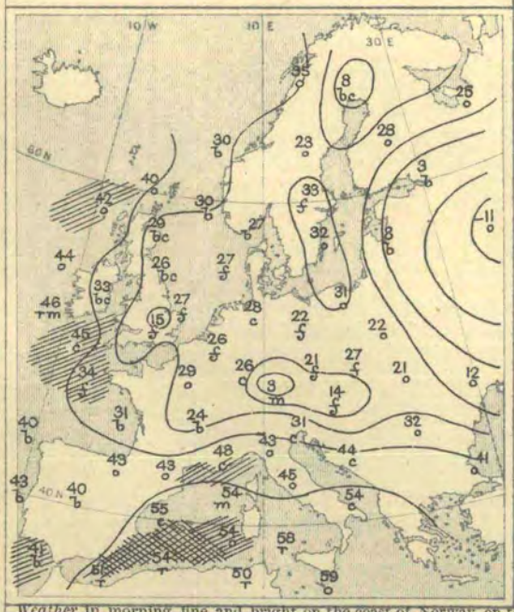
Temperature highest, 58° at Malta, 56° at Cagliari, 54° at Palma, 52° at Brindisi, and 49° at Algiers; above 45° at most of the Mediterranean stations, and also on the coasts of the Iberian Peninsula. Lowest, (1) −14° Fahr. at Moscow, −1° at Kiev and Kharkov, +6° at Nicolaieff, and 11° at Odessa; (2) 8° at Munich, and 17° at Vienna; (3) 14° at Loughborough, and 16° at York; (4) 20° at Parsonstown; below the freezing point over central Spain. Daily maxima over central England below 32°, but thermometer reaching 36° in London and 38° at Hurst Castle, and 40° at Dungeness.

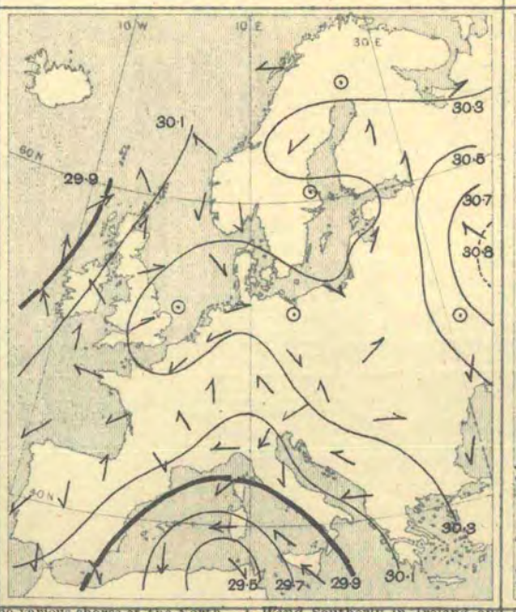
Wind light or moderate from the Eastward over the greater part of France, the Netherlands, the south of our Islands, and the west of Norway, but strong to a gale in the extreme south of France, light from the Westward in the north and east of our Islands, strong South-Westerly in Lapland, Southerly over the greater part of Russia, variable in central Europe, North-Easterly in Spain and Italy, Southerly in Algeria. Freshening South-Easterly winds setting in later on our extreme western coasts, and South-Westerly wind over Lapland dying down.

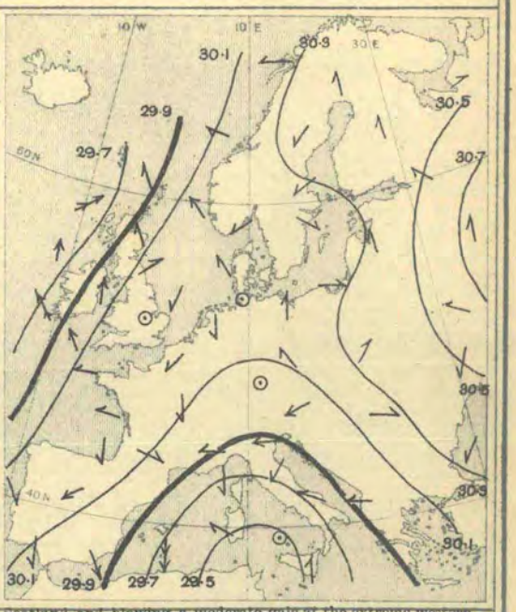
Barometer highest, 30·9 ins., and upwards in an anticyclone lying over Russia, 30·3 ins. to 30·2 ins. in a "col" extending westward as far as our own western coasts; lowest 29·8 ins. and less in two shallow depressions lying over the southern parts of the Mediterranean, 29·9 ins. and less in two other disturbances lying to the north-westward of Norway and the north of the White Sea. Slight fall taking place later in the extreme west of our Islands, but new anticyclonic system forming over the United Kingdom.

Monday, 22nd December.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather in morning fine and bright on the coast of Norway, on the various shores of the North Sea, and over the Iberian Peninsula; very foggy over the inland parts of England, and at many of the French, German, and Austrian stations; dull elsewhere; rain falling at Valencia, and also at Malta and Palermo, afterwards becoming general at our western and northern stations, and falling in considerable quantity over Ireland. Dense fog over London all day, heavy rains over Italy, snow in Austria-Hungary.

Temperature risen over the Mediterranean, Spain, Ireland, Scotland, and eastern Prussia, fallen in most other places, rapidly in London, at Oxford, and over the Baltic Provinces. Lowest morning readings, (1) −11° Fahr. at Moscow, −3° at Kharkov, +1° at Kiev, 3° at St. Petersburg, and 8° at Riga; (2) 3° at Munich, 14° at Vienna, 21° at Prague, 22° at Berlin, 27° at Paris; (3) 4° at Cambridge, 9° at Oxford, 10° at Loughborough, 15° in London, 16° at York, and 22° at Liverpool. Changing very irregularly over our Islands later, and falling several degrees over England, though continuing below the freezing point all day; touching 52° at Valencia, 47° at Scilly, Roche's Point, and Mullaghmore, and 47° at Parsonstown; exceeding 60° in the south of Italy.

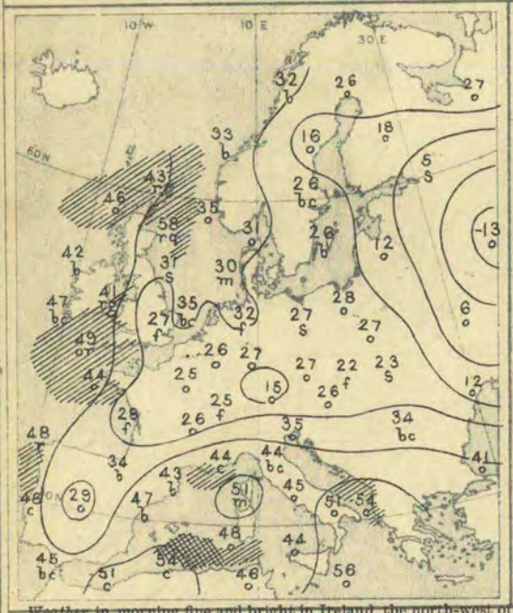
Wind Southerly in Ireland and Scotland, and blowing a moderate gale at the extreme western stations, Easterly in the west and south of France, and also in Norway; very variable and light elsewhere, calm over the inland parts of England. Southerly winds increasing in force later, blowing a strong gale in the Hebrides and west of Ireland, and spreading to Wales and the west of England; calms continuing in London.

Barometer highest, 30·4 ins. to 30·2 ins. in a complex anticyclone covering our Islands, the North Sea, Germany, and Austria, and 30·8 ins. to 30·5 ins. and more over central Russia; exceeding 30·2 ins. over Spain. Lowest, 29·5 ins. and less in a well-marked depression over Algeria, 29·9 ins. and less off our extreme north-west coasts. Falling at our western stations all day and forming steep gradients for Southerly winds in those regions; fall spreading eastwards. Depression over Algeria moving eastwards slowly.

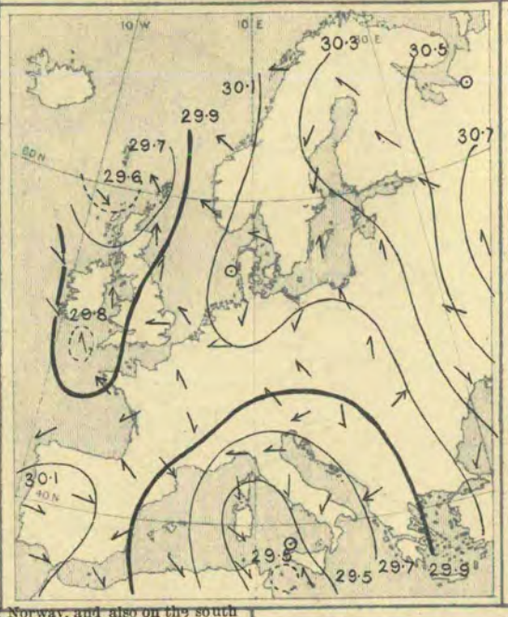
Judd & Co Lith. 7 5 & 75, Farringdon Rd & Doctors Commons.

Tuesday, 23rd December.

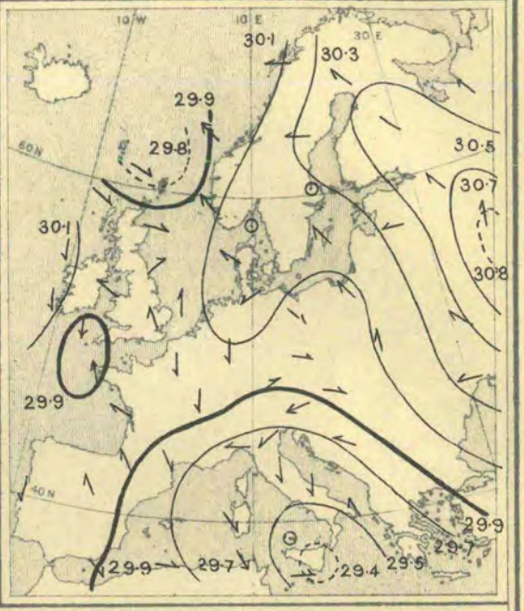
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright in Ireland, the north-west of Norway, and also on the south and east coasts of Spain; dull and gloomy elsewhere, with rain at Sumburgh Head, in Wales, and the Scilly Islands, fog and haze in several parts of England and the north of France; snow in north Germany and at Lemberg. Considerable rain in Wales and the west of England later, and a smaller amount in Brittany and at several of the Mediterranean stations; slight local falls of snow over the northern parts of England and in Germany. Sky continuously overcast in London.

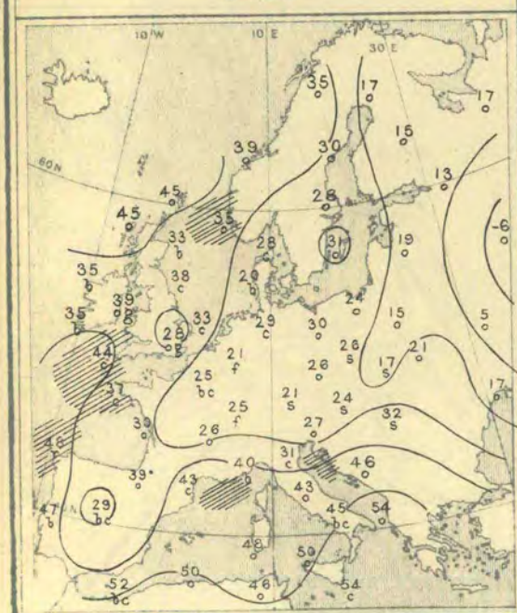
Temperature risen fast over England, slightly over the North Sea, falling again in Ireland. Morning readings exceeding 40° in the western parts of our Islands and the Spanish Peninsula (49° at Scilly and 47° at Valencia), and exceeding 50° in the south of Italy and some parts of Algeria; below 30° over the eastern and midland counties of England, and as low as (1) −13° Faht. at Moscow, 0° (zero) at Kharkov, +5° at St. Petersburg, 6° at Kiev, 12° at Nicolaieff, Odessa and Riga; (2) 15° at Munich, 16° at Münster, 25° at Paris, 27° at Berlin and London. Touching the freezing point in London later, but falling fast again over Ireland, remaining very cold over the Continent, especially over Russia.

Wind very variable. Very light from South and South-East over Russia, Germany, and the Baltic, moderate Southerly over England, strong over Scotland, and moderate North-Westerly to Northerly over Ireland, Easterly over the north of Italy, North-Westerly over the Gulf of Lyons and eastern and southern parts of the Mediterranean. Southerly wind over Scotland dying out later, and wind becoming light over our Islands generally, but shifting to the Northward at Scilly and blowing freshly.

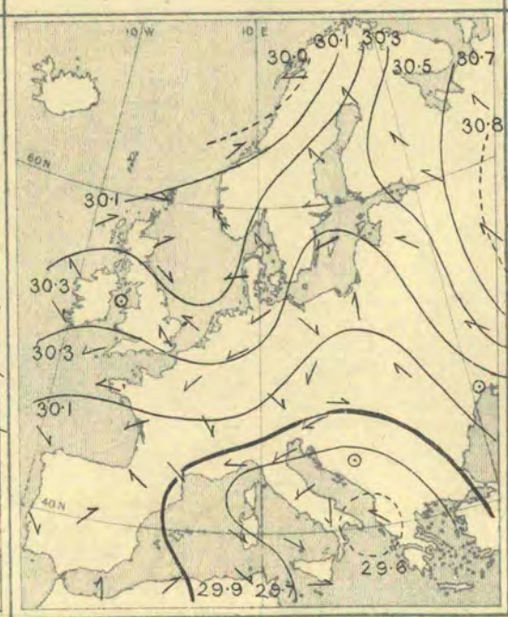
Barometer highest 30·7 ins. and more to 30·2 ins. over Russia, Finland, Sweden, and the Gulf of Bothnia. Lowest, 29·5 ins. and less in a large depression over the Mediterranean, 29·6 ins and less in another off our northern coasts, and 29·8 ins and less in a small one near Scilly. Rising throughout our Islands later. New high-pressure area appearing off the west of Ireland.

Wednesday, 24th December.

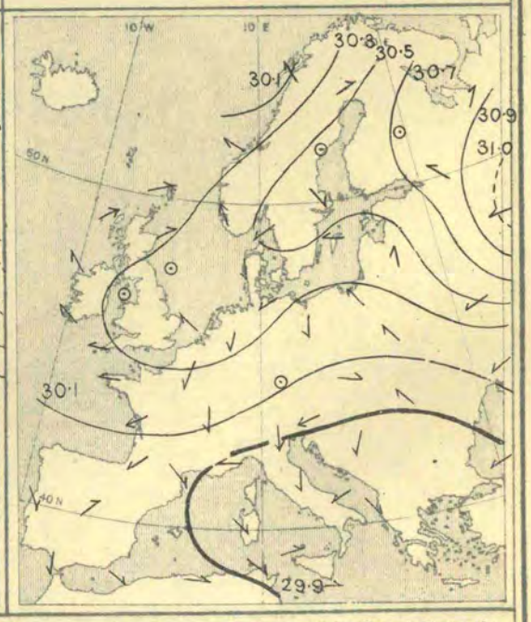
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine over the Spanish Peninsula, Ireland, and Scotland, as well as at Paris; cloudy or overcast elsewhere; snow very general over Austria and south Germany, and in some parts of Finland; fog over England, Holland, and the east of France. Rain at many of the Mediterranean stations later.

Temperature continuing very low for the time of year in almost all places. Morning readings exceeding 50° at Malta, Brindisi, and over Algeria, and exceeding 40° in Portugal, as well as in the north of Scotland, but much lower elsewhere. Lowest, −6° Fahr. at Moscow, 0° (zero) at Kharkov, +5° at Kieff, and below 20° over the north of Russia and Finland. Several degrees below the freezing point over Germany, France, and most of the inland parts of England and Ireland. Rising a good deal in Ireland later, little change elsewhere.

Wind mainly Easterly to Northerly over southern Europe, as well as over the Bay of Biscay, the southern parts of the British Islands, and Baltic; South-Easterly over Finland, South-Westerly in Scotland; very variable elsewhere. Strong to moderate over the Adriatic and northern parts of the Mediterranean, light to moderate at the other stations as a rule, but a gale reported at Skudesnaes. South-Easterly winds setting in over Ireland later and Easterly breeze freshening over Bay of Biscay.

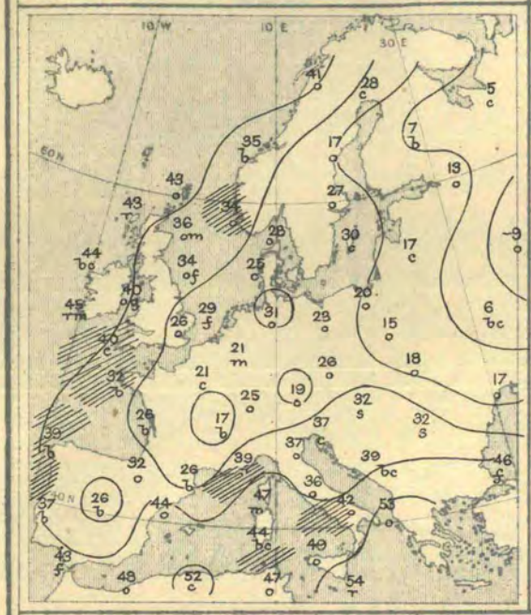
Barometer risen fast over the British Islands and north-western Europe. Highest in morning, 30·9 ins. to 30·5 ins. over Russia, 30·2 ins. to 30·3 ins. and more over the North Sea and British Islands. Lowest, 29·7 ins. and less in a complex depression over the south-eastern parts of the Mediterranean, 30·0 ins. and less off the north-west of Norway. Falling a little on the Atlantic coasts of Europe and the British Islands later, rising briskly over England, the North Sea, Germany, and the eastern parts of the Mediterranean.

Judd & Co Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

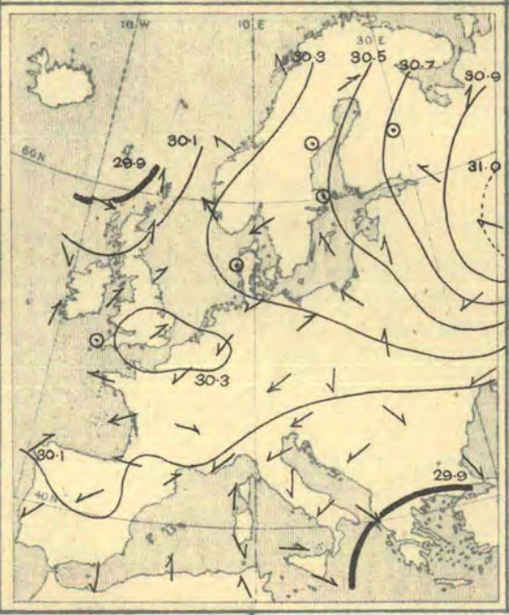
II.—SUMMARY OF WEATHER OVER EUROPE.

Thursday, 25th December.

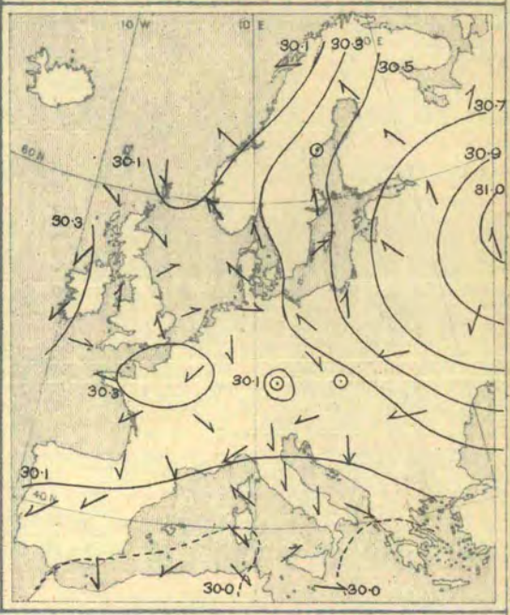
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning unsettled and showery over the western and north-western parts of the British Islands, fine in the south, and in many parts of France and Spain, as well as over Finland; cloudy or overcast elsewhere, hazy or foggy at several of the English stations. Rain or snow falling subsequently over the western, northern, and north-eastern parts of the United Kingdom, as well as over Germany and Austria, and a considerable quantity of rain on the southern side of the Mediterranean; sky clearing later over Russia and on many of the Atlantic coasts.

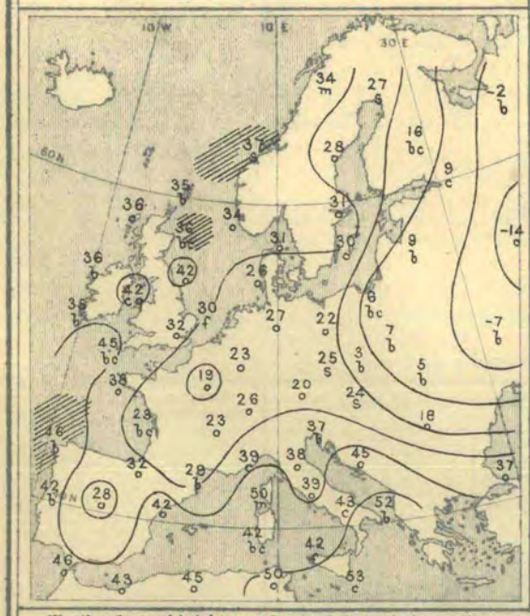
Temperature again very low for the time of year. Morning readings much below the freezing point over the inland districts. Lowest of all, −9° Fahr. at Moscow, +3° to 13° at most of the other Russian and Finnish stations, 17° at Lyons, 19° at Munich, 21° at Paris, Brussels, and at Loughborough, 23° at Berlin, 24° at Oxford and Cambridge, 26° in London and at Madrid. Highest, 50° to 54° at some southern stations in the Mediterranean, 43° at San Fernando, 40° to 45° on the western and northern coasts of the British Islands. Not much change later.

Wind mainly Easterly to Northerly over central and southern Europe and in the Channel and west of France, Southerly to Westerly over Ireland and Scotland, South-Easterly in the west of Norway and over the Baltic; not strong anywhere. Veering to North again in Ireland later and backing to North-East and North over the Bay of Biscay.

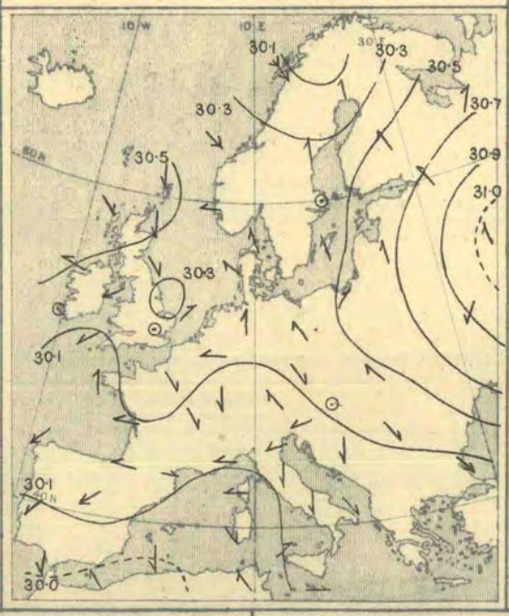
Barometer highest, 31·1 ins. to 30·6 ins. over central, northern, and western Russia, and varying between 30·3 ins. and 30·2 ins. over the southern half of our Islands and north of France. Lowest, 29·9 ins. and less in a depression off our extreme northern coasts, and in another shallow system over Turkey. Rising in Ireland and over Russia later, falling a little over England and the North Sea, 31·18 ins. at Moscow in evening.

Friday, 26th December.

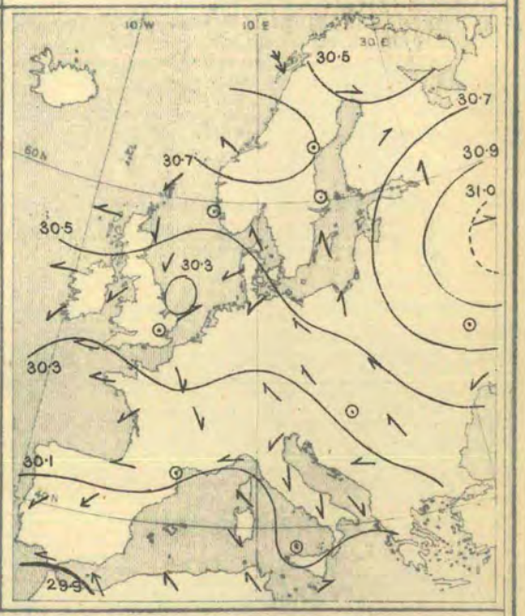
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather fine and bright over Scotland, Ireland, the south-western parts of England and France, and the coast of Portugal, as well as over northern Russia, eastern Germany, and southern Russia; cloudy or overcast elsewhere, with fog or haze in several places, snow in a few widely-spread localities. Some cold rain and sleet later in the north and east of our Islands and heavy rain locally at Cape Sicié.

Temperature fallen decidedly in Ireland, risen over England. Low for time of year over most inland districts, but especially over Russia and eastern Germany. Lowest morning values, −2° to −14° Fahr. over Russia, +3° at Cracow, 5° at Lemberg, 6° at Neufahrwasser, 7° at Warsaw, 9° at Riga and Memel, 19° at Paris, 23° at Parsonstown, 30° to 35° over the inland parts of England. Highest, 50° and more at Brindisi, Malta, and La Calle, and above 40° over Portugal and the west of Spain, as well as at Scilly. No important change later.

Wind (1) strong to a gale from the North-Westward over the northern parts of Norway, moderate to fresh from South-East over Finland, the Baltic Provinces, and western Russia; (2) moderate North-Easterly over the northern and western parts of our Islands, the Iberian Peninsula, and the south of France. Northerly to North-Westerly over Italy; (3) very variable over central Europe and at the mouth of the English Channel. No great change later.

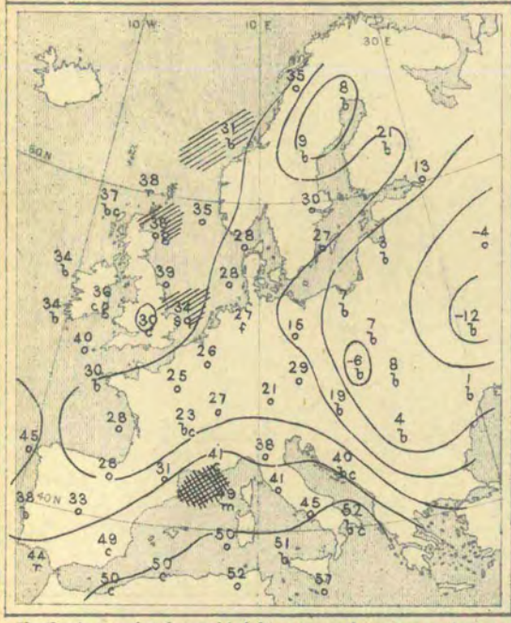
Barometer highest, 31·1 ins. to 30·5 ins. over Russia, Poland, and Hungary, and exceeding 30·5 ins. over the north of our Islands. Lowest, 30·1 ins. over the western parts of Lapland, and also over the south-eastern parts of the Mediterranean. Very shallow local disturbance over Bedfordshire and Lincolnshire, and another near the mouth of the English Channel. Very little change later, beyond the development of a new anticyclone (30·7 ins. and more) over Norway and Sweden.

Judd & Co Lith. 75 & 75, Farringdon Rd & Doctors Commons.

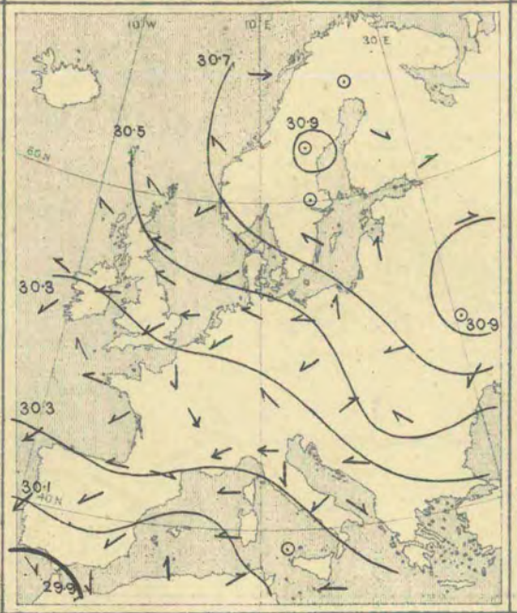
II.—SUMMARY OF WEATHER OVER EUROPE.

Saturday, 27th December.

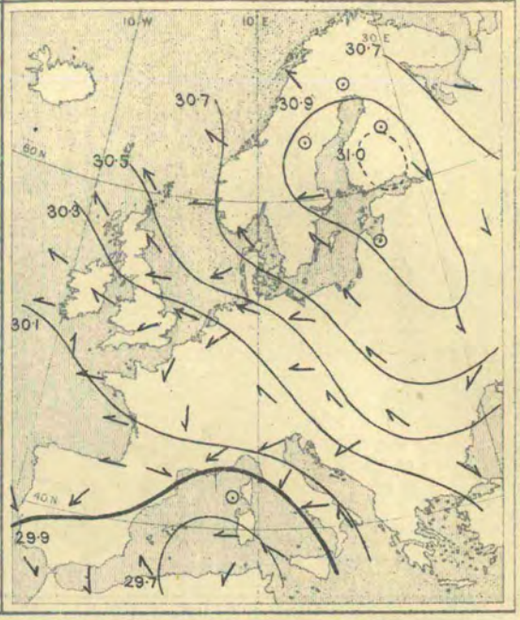
Temperature and Weather. 8 a.m.



Barometer and Wind. 8 a.m.



Barometer and Wind. 6 p.m.



Weather in morning fine and bright over south-eastern, eastern, and northern Europe, as well as on the western coasts of the British Islands and in Brittany, dull elsewhere; snow falling at some of the English stations, haze prevalent at others; rain at Sumburgh Head, and also over central Algeria. Snow, sleet, or cold rain later at most of the British stations, also in the south of France, and heavy rain at Brindisi, Cagliari, Algiers, and San Fernando.

Temperature changing little and rather irregularly. Very low generally, especially at inland stations, lowest values of all being from zero to −12° Fahr. over the southern half of Russia and at Cracow, +3° to 8° over the Baltic Provinces, Poland, and Hungary, 8° at Haparanda, 9° at Hernösand, 15° at Berlin, 23° at Lyons, 25° at Paris, as well as at Parsonstown, 30° in London, 31° at Nairn, 32° at York. Highest, 50° to 57° over the south-eastern parts of the Mediterranean, and exceeding 40° on the coasts of Spain and Portugal. No great or general change later.

Wind Easterly to South-Easterly over nearly all the central and western countries of Europe, light to moderate in force; North-Easterly in the south of Ireland, Northerly in Portugal; calms and variable airs reported over Finland and Russia, South-Westerly breezes over Algeria, Northerly over Italy. Becoming still more Southerly over Scotland and the north of Ireland later.

Barometer highest, 30·9 ins. to 30·6 ins. in an anticyclone lying over Russia, Finland, the Baltic, and Scandinavia. Lowest, 29·7 ins. over Morocco, and below 29·9 ins. over all the south-western and southern parts of the Mediterranean. Rising to 31·0 ins. over Finland later and falling to about 29·5 ins. in a depression appearing between Sardinia and Tunis; little change elsewhere.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟫⟶ = a heavy gale; ⟶ = a gale; ⟶ = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

In the course of this week severe frost has prevailed continuously over Russia, south-eastern, central, and northern Europe, and has extended with less intensity to England and the inland parts of the Spanish Peninsula. These conditions have been accompanied by very high pressures over Russia and by anticyclonic conditions over Europe generally. The wind has been mainly Easterly, except in the extreme north-west, where Southerly to Westerly winds have occasionally prevailed. At the close of the week no material alteration was indicated.

REPORTS received too late for insertion in their proper places.

Date of Report.	Names of Stations.	Temperature. (In Degrees Fahrenheit.)								Rainfall.			Bright Sunshine.	
		Highest observed.	Lowest observed.	Averages for the Week.			Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-Degrees).		Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Number of Hours recorded.	Percentage of possible duration.
				Of Highest each Day.	Of Lowest each Day.	For whole of the Day.		Above 42° F.	Below 42° F.					
		°	°	°	°	°	°	°	°		Inches.	Inches.		
December 20th	Douglas (Isle of Man)	44	19	38·2	31·9	35·2	−6·0	0	48	4	0·44	−0·58	1·1	2
„ 20th	Llandudno	44	20	35·9	26·6	31·4	−10·7	0	74	4	0·49	−0·25	?	?
„ 20th	Foynes	47	27	43·1	32·1	37·8	−4·1	3	37	4	0·59	?	*	*

Judd & Co Lith. 73 & 75, Farringdon Rd & Doctors' Commons

WEEKLY WEATHER REPORT.

ISSUED BY THE METEOROLOGICAL OFFICE, 63, VICTORIA STREET, LONDON; R. H. SCOTT, F.R.S., SECRETARY.
PUBLISHED BY EYRE AND SPOTTISWOODE, EAST HARDING STREET, FLEET STREET, E.C.; ADAM AND CHARLES BLACK, 6, NORTH BRIDGE, EDINBURGH; AND HODGES, FIGGIS, & Co., 104, GRAFTON STREET, DUBLIN.

VOL. VII. No. 53]. *Third Series.* WEEK ENDING SATURDAY, 3RD JANUARY, 1891. [*Price 6d.* [*Annual subscription, post paid, £1 10s. 0d.*

I.—SUMMARY OF TEMPERATURE, RAINFALL, AND DURATION OF BRIGHT SUNSHINE IN THE UNITED KINGDOM, FOR AGRICULTURAL AND SANITARY PURPOSES.

Explanation of the Summary.—The distribution of the Districts, and the Stations from which reports are received, are shown on the second page of this number. TEMPERATURE.—The *Daily Mean* is obtained from the maxima and minima by applying a suitable correction determined for each month. The *Mean for the Week* is the mean daily temperature (obtained as above) in the corresponding week, derived from 20 years' observations (1861–80). ACCUMULATED TEMPERATURE indicates the combined amount and duration of the excess or defect of temperature above or below 42° F. for the period named, and is expressed in Day-degrees—a "Day-degree" signifying 1° continued for 24 hours, or any other number of degrees, for an inversely proportional number of hours. The *Means* with which the current values are compared are those for the corresponding period in the eight years, 1878-85. RAINFALL.—*The Mean amounts* are those for the corresponding periods in the twenty years 1866–85, but the *Mean numbers of Rainy Days* are those for the eight years 1878-85, only. BRIGHT SUNSHINE.—*The Mean values* employed are those for the corresponding periods in the five years 1881–85.

A more detailed explanation of the meaning of "Accumulated Temperature" will be found in the Preface to Vol. I. Second Series.

Temperature of the Air.

	DISTRICTS. (See p. 314.)	Observed during the Week. Highest.	Lowest.	Averages of Daily Maxima.	Daily Minima.	Daily Mean.	Above or below the Mean for the Week.	Accumulated. For the Week. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.	From December 29th, 1889. Above 42°	Difference from Mean.	Below 42°	Difference from Mean.
		°	°	°	°	°	°	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.	Day-deg.
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	45	26	40·2	33·5	37·0	2 below.	0	− 6	35	0	2092	+197	709	−109
	1. SCOTLAND, EAST -	43	24	37·7	31·6	34·7	2 below.	0	− 7	51	+ 8	2438	+ 35	884	− 29
	2. ENGLAND, N.E. - -	41	27	37·1	31·5	34·4	4 below.	0	− 7	53	+13	2729	+139	765	− 19
	3. ENGLAND, EAST -	39	20	32·4	23·9	28·3	10 below.	0	− 8	96	+54	3013	+ 37	1019	+202
	4. MIDLAND COUNTIES	41	18	33·0	24·2	28·8	9 below.	0	− 9	92	+50	2954	+ 11	1029	+189
	5. ENGLAND, SOUTH -	44	12	34·4	25·6	30·2	10 below.	0	−11	83	+50	3285	+ 22	758	+151
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	47	28	39·2	33·7	36·6	3 below.	0	− 9	33	+ 5	2638	+ 80	578*	− 81
	7. ENGLAND, N.W. -	47	24	36·9	30·9	34·0	6 below.	0	− 9	56	+24	2850	+119	654	+ 42
	8. ENGLAND, S.W. -	49	16	37·8	28·2	33·2	9 below.	0	−18	62	+43	3116	− 94	530	+170
	9. IRELAND, NORTH -	46	24	39·7	33·0	36·5	5 below.	0	−12	39	+ 9	2770	+ 96	500	− 84
	10. IRELAND, SOUTH -	50	21	40·8	31·5	35·3	6 below.	0	−19	40	+17	3173	+ 86	425	+ 4
	— CHANNEL ISLANDS -	49	22	43·4	33·9	38·9	6 below.	4	−20	31	+22	3567	− 7	217	+ 86

Rainfall. Bright Sunshine.

	DISTRICTS. (See p. 314.)	Rainfall. For the Week. Number of Rainy Days.	Total Fall.	More or less than the Mean for the Week.	From December 29th, 1889. Number of Rainy Days.	Difference from Mean.	Total Fall.	Difference from Mean.	Bright Sunshine. For the Week. Hours recorded.	Percentage of possible Duration.	From December 29th, 1889. Hours recorded.	Difference from Mean.	Percentage of possible Duration.	Difference from Mean.
			10ths of In.	10ths of In.			Ins.	Ins.						
Principal Wheat-producing Districts.	0. SCOTLAND, NORTH -	3	2	7 less.	264	+26	55·1	+ 0·2	10	22	1043	−178	23	− 4
	1. SCOTLAND, EAST -	4	3	4 less.	222	+25	33·2	− 0·5	2	4	1259	−150	28	− 4
	2. ENGLAND, N.E. - -	3	2	4 less.	193	0	25·1	− 4·0	1	1	1247	− 27	28	− 1
	3. ENGLAND, EAST -	2	1	4 less.	184	−15	23·1	− 4·0	2	4	1568	+ 16	35	0
	4. MIDLAND COUNTIES-	2	1	5 less.	182	− 9	22·5	− 8·5	0	0	1365	− 26	31	0
	5. ENGLAND, SOUTH -	3	2	5 less.	180	− 4	25·6	− 3·7	4	8	1491	+ 1	33	0
Principal Grazing, &c., Districts.	6. SCOTLAND, WEST -	2	3	8 less.	224	+13	53·6*	− 2·7	2	5	1302	− 34	29	− 1
	7. ENGLAND, N.W. - -	2	1	7 less.	210	+11	35·3	− 1·7	5	10	1254	− 76	28	− 2
	8. ENGLAND, S.W. - -	2	2	9 less.	218	+ 6	38·2	− 7·8	4	7	1528	− 82	34	− 2
	9. IRELAND, NORTH -	3	2	6 less.	246	+10	38·8	+ 1·1	6	12	1264	− 10	28	0
	10. IRELAND, SOUTH -	3	3	6 less.	229	+10	41·4	+ 0·2	6	11	1401	− 61	31	− 2
	— CHANNEL ISLANDS -	4	1	7 less.	216	−14	33·0	− 2·4	14	25	1842	− 59	41	− 2

General Remarks.

Weather has remained cold and dull in all parts of the Kingdom, but the frost has been less severe generally than during the preceding weeks. Slight snow has fallen at times in many parts of the Kingdom, and occasional rain in the extreme west and north-west. Thick fog was again experienced over England on Friday, but especially in London, where it was unusually dense.

Temperature has again been below the mean, the deficit having ranged from 2° or 3° in Scotland, to 5° or 6° over Ireland, and to 9° or 10° in most of the English districts. The highest of the maxima were registered, with few exceptions, on January 3rd, and ranged from 50° in "Ireland S." to 39° in "England E." The daily maxima over England were, as a rule, higher than those recorded of late, but on December 30th the thermometer at many of the inland stations did not exceed 26° all day. The lowest of the minima, which occurred on December 31st over England and on irregular dates in Ireland and Scotland, ranged from 12° in "England S." and between 16° and 20° in most other parts of England to 21° in "Ireland S.," 27° in "England N.E.," and 28° in "Scotland W."

Rainfall has been considerably less than the mean in all districts.

Bright Sunshine has continued unusually deficient, and at many stations has been altogether absent. The percentage of the possible duration varied from 25 in the "Channel Islands" and 22 in "Scotland N." to 12 in "Ireland N.," 4 in "Scotland E." and "England E.," to only 1 or less over "England N.E." and the "Midland Counties."

Barometer and Wind.—The barometer has been generally highest in the east and north-east and lowest in the south-west and west, the intervening gradients for Easterly and South-Easterly winds having been generally slight. On the 30th and 31st, however, they were steeper, and moderate or fresh gales were experienced on exposed parts of our eastern coasts. At the close of the week the barometer was highest in the south-east and lowest in the north-west, and the wind had shifted to the Southward at our western and northern stations.

* This value has been altered owing to the receipt of further information.

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36 376 1 | 91 607

III.—DATA from which the SUMMARY on page 313 has been calculated.

Districts.	Names of Stations.	Temperature. (In Degrees Fahrenheit.) Highest observed.	Lowest observed.	Averages for the Week. Of Highest each day.	Of Lowest each day.	For whole of each day.	Difference of Daily Average from Mean for the Week.	Accumulated Heat for the Week (in Day-degrees). Above 42° F.	Below 42° F.	Rainfall. Number of Rainy Days.	Rainfall in the Week.	Difference from the Mean for the Week.	Bright Sunshine. Number of Hours recorded.	Percentage of possible duration.
		°	°	°	°	°	°	°	°		Inches.	Inches.		
0. SCOTLAND, N.	Sumburgh Head ℱ	45	35	41·6	36·9	39·3	− 0·6	0	19	3	0·20	−0·71	*	*
	Stornoway ℱ	45	30	41·9	34·1	38·1	− 1·0	0	27	2	0·17	−1·03	18·2	40
	Wick ℱ	43	32	41·3	35·6	38·6	− 0·4	0	24	4	0·17	−0·41	*	*
	Lairg ℱ ℌ	39	26	35·8	29·5	32·8	− 4·6	0	64	2	0·11	−0·77	*	*
	Glencarron ℌ										†		*	*
	Fort Augustus ℱ ℌ	44	26	39·8	31·4	35·8	− 3·3	0	43	2	0·22†	−0·86	2·9	6
	Fort William ℱ ℌ	44	27	40·7	33·6	37·3	− 2·5	0	33	2	0·19†	−1·98	9·0	20
1. SCOTLAND, E.	Nairn ℱ	42	24	38·7	28·7	33·9	− 4·0	0	57	3	0·23	−0·25	*	*
	Aberdeen ℱ	42	31	39·9	35·7	37·8	+ 0·5	0	29	4	0·29	−0·35	0·0	0
	Braemar ℱ ℌ	37	27	34·9	28·8	32·0	− 2·2	0	70	3	0·06	−0·64	0·0‡	0‡
	Ochtertyre ℱ ℌ	39	29	37·0	31·7	34·5	− 2·7	0	53	6	0·26	−0·86	*	*
	Leith ℱ	43	30	39·3	33·7	36·6	− 1·4	0	38	2	0·16	−0·29	3·0‡	6‡
	Marchmont ℌ	39	28	36·1	30·7	33·5	− 2·2	0	60	6	0·52	−0·18	4·0	8
2. ENGLAND, N.E.	Alnwick Castle ℱ	41	29	38·0	33·7	36·0	− 2·1	0	42	3	0·46	−0·16	*	*
	Durham ℱ	38	28	36·3	31·0	33·9	− 3·8	0	57	3	0·31	−0·29	0·3	1
	Shields ℱ	41	28	38·9	32·7	35·9	− 3·0	0	43	3	0·21	−0·40	*	*
	Scarborough ℱ ℌ	39	27	36·9	31·0	34·1	− 3·8	0	55	3	0·11	−0·44	1·5‡	3‡
	York ℱ	40	28	36·4	30·0	33·3	− 4·9	0	61	2	0·07	−0·42	0·0	0
	Spurn Head ℱ	37	27	35·9	30·3	33·2	− 5·1	0	62	3	0·10	?	*	*
3. ENGLAND, E.	Hillington ℱ ℌ	38	20	32·6	24·0	28·5	− 8·9	0	95	3	0·11	−0·40	4·2	8
	Yarmouth ℱ	37	21	32·9	24·3	28·8	−10·0	0	92	3	0·07	−0·52	*	*
	Geldeston ℱ	39	20	32·9	23·5	28·4	−10·4	0	95	2	0·08	−0·37	2·8	5
	Cambridge ℱ	37	20	31·9	23·1	27·7	−10·4	0	100	2	0·06	−0·34	0·0	0
	Rothamsted ℱ	36	20	31·6	24·8	28·3	− 9·5	0	96	2	0·15	−0·45	1·0	2
4. MIDLAND COUNTIES	Bawtry (Hesley Hall) ℱ	35	18	35·1	26·7	30·0	− 9·0	0	84	3	0·16	−0·32	0·3‡	1‡
	Loughborough ℱ	37	20	32·9	25·3	29·3	− 8·6	0	89	2	0·02	−0·48	0·0‡	0‡
	Cheadle ℱ	38	20	33·6	25·4	29·7	− 7·7	0	86	2	0·09	−0·59	*	*
	Churchstoke ℱ	38	19	32·2	25·4	28·9	− 9·3	0	92	1	0·03	−0·65	1·0	2
	Hereford ℱ	38	19	32·8	24·5	28·8	− 9·9	0	92	4	0·10	−0·48	*	*
	Cirencester ℱ	41	18	34·9	19·4	27·5	−10·0	0	102	1	0·08	−0·64	0·0	0
	Oxford ℱ	37	20	31·7	22·9	27·5	−11·6	0	102	2	0·13	−0·37	0·0	0
5. ENGLAND, S.	London ℱ	39	20	33·0	25·7	29·5	− 9·8	0	88	3	0·17	−0·33	0·0‡	0‡
	Strathfield Turgiss ℱ	39	18	32·3	22·5	27·6	−11·4	0	101	2	0·19	−0·36	*	*
	Dungeness ℱ	44	12	36·9	25·6	31·5	− 9·1	0	74	3	0·21	−0·47	4·2‡	8‡
	Hastings (St. Leonards) ℱ	42	17	36·2	27·7	32·1	− 8·1	0	69	4	0·17	−0·51	8·2	15
	Southampton ℱ	39	17	34·2	25·5	30·0	− 9·2	0	84	3	0·15	−0·60	4·4	8
	Hurst Castle ℱ	40	21	35·9	27·6	31·9	− 9·2	0	71	1	0·03	−0·65	*	*
	Stowell ℱ	38	16	32·6	24·7	28·8	−11·2	0	92	3	0·27	?	? ‡	? ‡
6. SCOTLAND, W.	Laudale (Loch Sunart) ℌ	47	29	41·9	34·8	38·5	− 1·2	0	25	4	0·46†	−1·59	*	*
	Glasgow ℱ	41	30	37·5	34·4	36·1	− 2·6	0	41	2	0·27	−0·72	0·0	0
	Ardrossan ℱ	44	28	39·3	32·9	36·2	− 2·9	0	41	2	0·31	−0·67	*	*
	Glenlee ℱ ℌ	42	29	37·6	32·2	35·0	− 4·1	0	49	2	0·06†	−1·55	*	*
	Douglas (Isle of Man) ℱ	45	31	39·6	34·2	37·0	− 3·8	0	35	1	0·16	−0·90	4·4	9
7. ENGLAND, N.W.	Newton Reigny ℱ	40	27	36·6	30·0	33·4	− 4·1	0	60	1	0·07	−0·75	7·6	15
	Stonyhurst ℱ	38	28	34·7	30·8	32·9	− 4·8	0	64	2	0·11	−0·90	2·1	4
	Blackpool ℱ	42	28	37·2	30·8	34·1	− 6·5	0	55	2	0·36	−0·36	?	?
	Manchester ℱ	38	25	34·8	30·4	32·7	− 6·5	0	65	2	0·09	−0·71	*	*
	Liverpool Obsy. (Bidston) ℱ	42	25	36·1	29·7	33·0	− 7·3	0	63	2	0·13	−0·43	*	*
	Llandudno ℱ	47	24	38·8	32·6	35·8	− 6·3	0	43	?	?	?	?	?
	Holyhead ℱ	46	26	40·3	32·0	36·3	− 6·8	0	40	3	0·09	−0·73	*	*
8. ENGLAND, S.W.	Llandovery ℱ	39	17	35·1	24·1	29·8	−10·4	0	85	2	0·16	−1·08	*	*
	Pembroke ℱ	46	19	37·7	28·6	33·3	− 9·6	0	61	1	0·03	−0·87	6·0	11
	Arlington (N. Devon) ℱ	45	16	36·7	24·6	30·9	− 9·5	0	78	1	0·27	−0·92	*	*
	Cullompton ℱ	42	18	34·2	26·0	30·3	−10·9	0	82	3	0·13	−0·67	0·0	0
	Falmouth ℱ	49	25	41·4	33·5	37·9	− 6·2	0	29	2	0·28	−0·97	4·7	8
	Plymouth ℱ	46	23	39·3	29·4	34·6	− 8·0	0	52	2	0·07	−0·81	4·6	8
	Prawle Point ℱ	49	25	40·1	31·4	35·9	− 6·6	0	43	3	0·31	?	*	*
9. IRELAND, N.	Malin Head ℱ	44	34	41·0	35·1	38·3	− 2·0	0	26	3	0·23	?	*	*
	Londonderry ℱ	43	27	38·9	32·2	35·7	− 5·3	0	44	3	0·22	−0·68	*	*
	Mullaghmore ℱ	45	31	40·9	33·4	37·3	− 4·8	0	33	3	0·21	−0·69	*	*
	Belmullet ℱ	46	31	40·6	33·1	37·0	− 7·1	0	35	3	0·14	?	*	*
	Markree Castle ℱ	41	26	38·3	29·9	34·3	− 7·4	0	54	2	0·05	−0·74	7·4	15
	Brookeborough ℱ	43	24	38·3	31·6	35·1	− 5·0	0	48	2	0·23	?	*	*
	Armagh ℱ	44	28	39·0	33·1	36·2	− 3·9	0	41	5	0·15	−0·50	4·2	8
	Donaghadee ℱ	45	35	42·1	37·1	39·7	− 1·3	0	18	6	0·25	−0·42	*	*
	Edgeworthstown ℱ	42	28	38·0	31·6	34·9	− 4·7	0	50	4	0·11	−0·59	*	*
10. IRELAND, S.	Dublin ℱ	45	30	41·3	36·1	38·8	− 2·3	0	22	3	0·10	−0·42	2·8	5
	Parsonstown ℱ	45	25	39·6	29·4	34·7	− 5·3	0	51	3	0·31	−0·38	3·6	7
	Kilkenny ℱ	45	25	39·3	31·0	35·3	− 4·7	0	47	2	0·28	−0·48	*	*
	Waterford ℱ	45	24	40·2	32·4	36·5	− 5·5	0	39	4	0·23	−0·77	*	*
	Roche's Point ℱ	48	29	42·4	33·3	38·0	− 5·0	1	32	5	0·67	−0·50	*	*
	Valencia ℱ	50	28	44·7	31·6	38·4	− 6·9	8	40	3	0·16	−1·26	11·2	21
	Killarney ℱ	48	21	40·4	29·4	35·1	− 8·2	0	48	2	0·10	?	*	*
	Foynes ℱ	45	24	38·6	28·6	33·8	− 7·8	0	57	4	0·47	?	*	*
CHANNEL ISLANDS	Scilly (St. Mary's) ℱ	49	30	44·7	37·4	41·2	− 5·4	8	19	4	0·18	−0·73	*	*
	Jersey ℱ	49	22	42·1	30·3	36·5	− 6·4	0	43	4	0·07	−0·73	14·0	25

Stations marked ℱ are in connection with the Royal Meteorological Society, and those marked ℌ with the Scottish Meteorological Society.

* An asterisk is inserted in all places for which the information is not usually received.

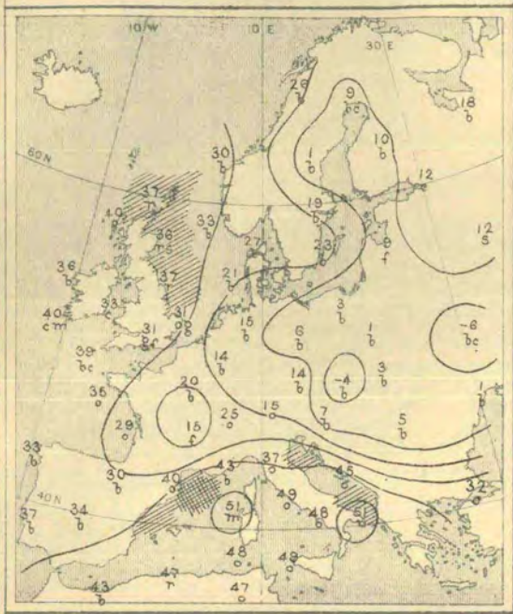
† The rainfall at Glencarron, Fort Augustus, Fort William, Laudale, and Glenlee being so much greater than that at our other stations in "Scotland N." and "Scotland W.," the weekly amounts are not at present used in calculating the "Difference from the Mean for the Week" in those districts.

‡ The Bright Sunshine values entered to Bawtry are recorded at Worksop, those entered to Loughborough at Thurcaston, those entered to Scarborough at Oswaldkirk, those entered to Dungeness at Westgate-on-Sea, and those to Leith at Edinburgh. At Braemar and Stowell the Bright Sunshine values are obtained by Jordan's Photographic Recorder. At all other stations Stokes' or somewhat similar Bright Sunshine Recorders are in use. For London the Sunshine values are the means of observations made in the City (Bunhill Row), at the Kew Observatory, and the Meteorological Office, Victoria Street.

Sunday, 28th December.

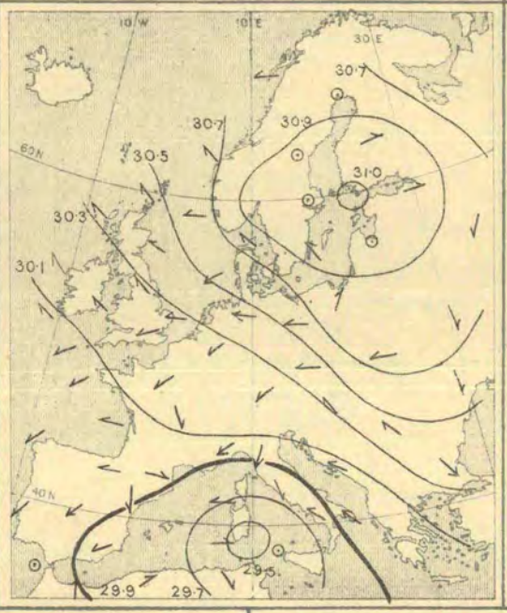
Temperature and Weather.

8 a.m.

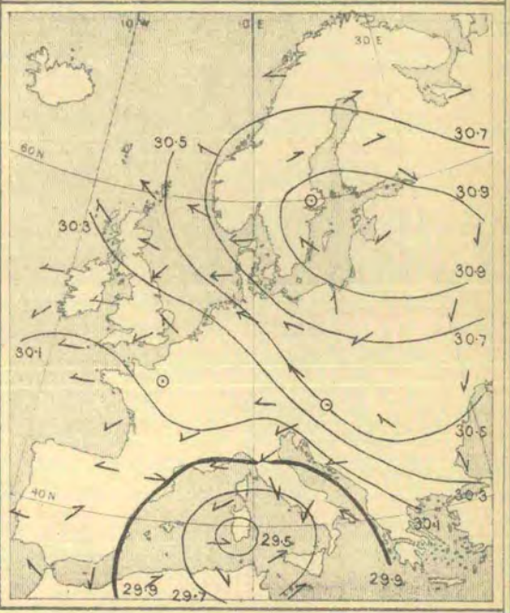


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine and bright at the majority of the European stations, cloudy or overcast in our Islands and on the shores of the Mediterranean; very gloomy in places, with cold rain or snow in several parts of England, fog at Riga, snow at Moscow; rain at Brindisi also. Slight snow falling later at several of the English stations, and larger amounts in some parts of Russia.

Temperature still very low generally; morning values as low as (1) zero to −12° Fahr. over the south of Russia and some parts of Austria, and 10° to 20° further north; (2) 3° at Neufahrwasser, 6° at Berlin and Breslau, 13° at Munich, 18° at the Helder, 20° at Paris, 27° at Oxford, 31° in London and at Cambridge, 33° at Parsonstown, 34° at Madrid; (3) 1° to 9° over the northern half of Sweden. Daily maxima over England a little above or below the freezing point, thermometer remaining below 20° in many parts of Germany.

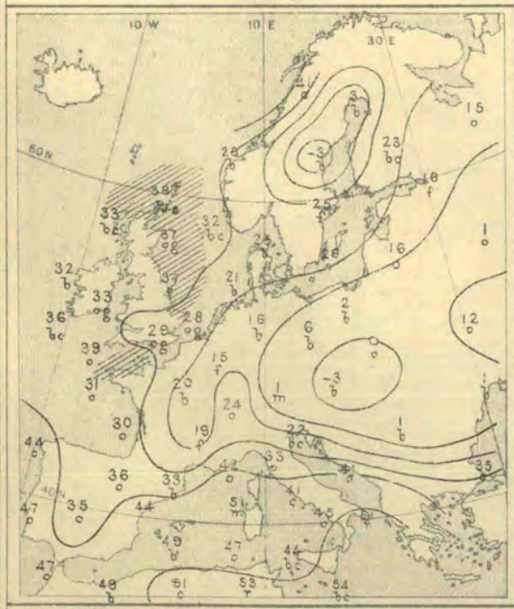
Wind (1) strong North-Easterly to Northerly on the northern shores of the Mediterranean, South-Easterly over the Adriatic; (2) mainly Easterly over Germany, Denmark, the North Sea, and England, South-Easterly in Ireland and Scotland; very light and variable over Poland, Hungary, and the south of Russia, Easterly wind freshening somewhat over the south of England later, and wind backing to North-East in the south of Ireland. No important change occurring at Continental stations.

Barometer falling over central and northern Russia; highest, 31·1 ins. to 30·6 ins. in a large anticyclone having its centre near Hangö, and ranging from 30·4 ins. on the north-east coast of Scotland to rather below 30·1 ins. off our south-west coasts. Lowest, 29·8 ins. to 29·5 ins. and less in a depression over the Mediterranean, with its centre near Cagliari. No important change later, but barometer falling slightly in the extreme north of Europe.

Monday, 29th December.

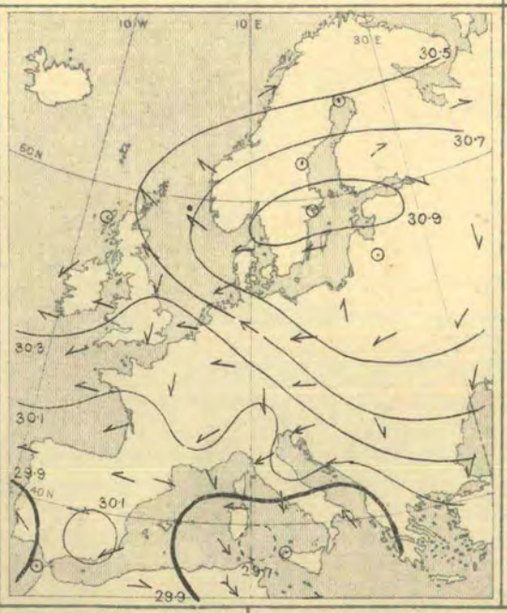
Temperature and Weather.

8 a.m.

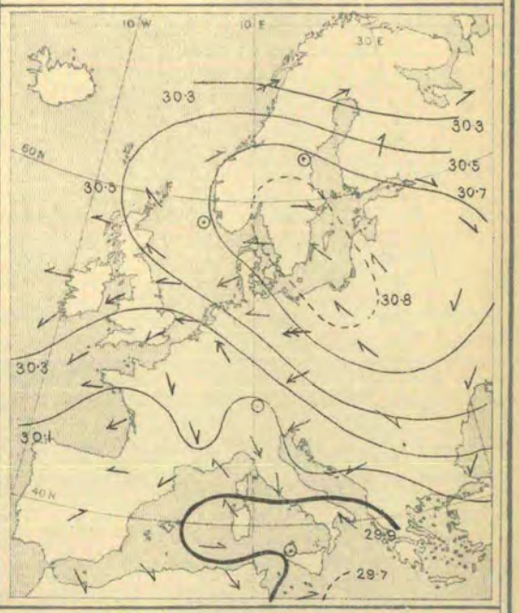


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in Ireland and the west of Scotland, as well as over Scandinavia, Denmark, central Europe, and the extreme southern parts of Russia and Italy. Dull elsewhere, with fog at St. Petersburg and Lyons, rain at Brindisi and La Calle, and a thunderstorm at Sfax. A little snow falling in the south-east of England during day and rain continuing at some of the Italian and Algerian stations.

Temperature highest, 54° at Malta, 53° at La Calle, and 51° at Brindisi and Algiers; above 45° at most of the Mediterranean stations, and also on the south-west coasts of the Spanish Peninsula. Lowest, −3° Fahr. at Cracow, 0° (zero) at Warsaw, Kharkov, Breslau, and Vienna, and +1° at Moscow, Odessa, Hermanstadt, and Munich; below 10° in most parts of central Europe, below 20° over the Netherlands and central France, and below the freezing point over all the more inland parts of the United Kingdom. Thermometer over the eastern, midland, and south-eastern counties of England remaining below 32° all day. Weather exceedingly cold in Germany; maximum at Berlin only 9°.

Wind Easterly or North-Easterly over England, Ireland, France, Denmark, the Baltic, and the greater part of central Europe, fresh to strong in force on the eastern and southern coasts of England; South-Easterly in the north and east of Scotland, and also in the west of Norway; calm in Sweden, light from the South-Westward in the extreme north of Russia. Cyclonic circulation of strong winds reported over Italy, Tunis, and the adjacent parts of the Mediterranean, with a gale from the Eastward at Trieste and from the North-Westward at La Calle. Variable in Spain, South-Westerly in Algeria. Westerly gale setting in later over the north of Scandinavia.

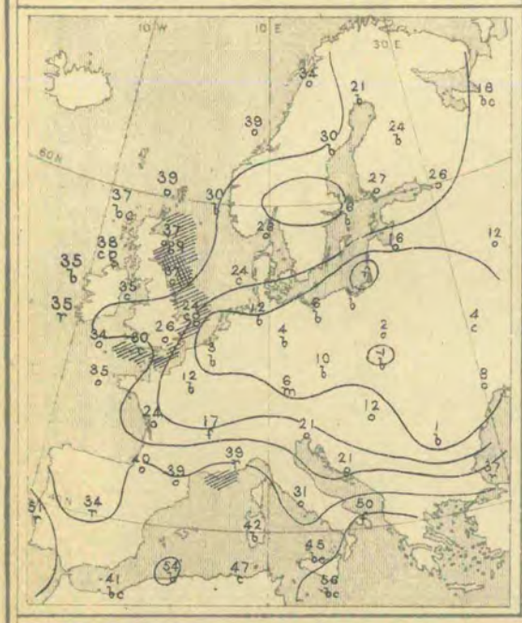
Barometer highest, 30·9 ins. and upwards over the south of Sweden and the Gulf of Bothnia, 30·6 ins. and upwards over the whole of Russia, the Baltic, Denmark, and the greater part of Scandinavia. Lowest, 29·8 ins. and less in a large depression lying over the Mediterranean to the south and east of Italy, 29·9 ins. and less in another system lying to the south-westward of the Iberian Peninsula. No important change occurring during day.

Judd & Co. Lith. 73 & 75, Farringdon Rd & Doctors' Commons.

Tuesday, 30th December.

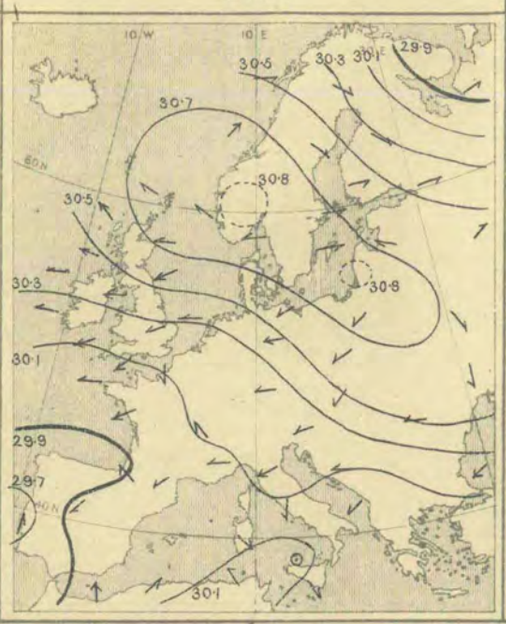
Temperature and Weather.

8 a.m.

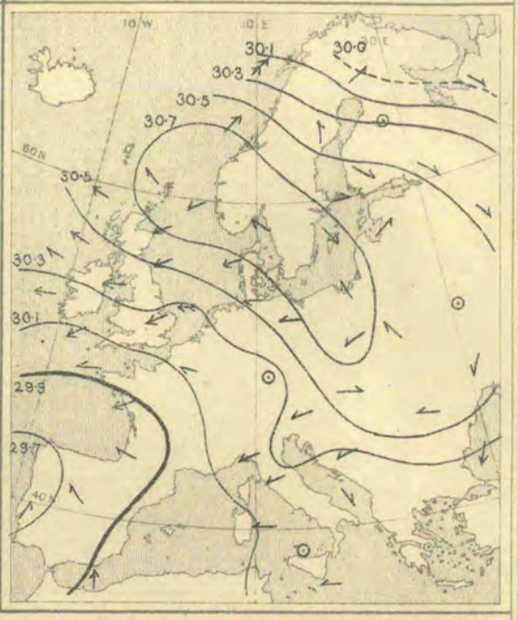


Barometer and Wind.

8 a.m.



6 p.m.



Weather fine in the north-west of our Islands, as well as over Sweden, Finland, and the greater part of central Europe. Dull in most other localities, with fog at some of the French stations, rain in Spain and the south of France; fine over the central and southern parts of the Mediterranean. A little snow falling later in many parts of Ireland and England and slight rain in the east of Scotland, and a good deal of rain on the shores of the Mediterranean.

Temperature highest, 55° at Malta, 54° at Algiers, 51° at Lisbon, and 50° at Brindisi; above 50° at most of the Mediterranean stations, but below 40° in the Riviera. Lowest, −1° Fahr. at Cracow, 0° (zero) at Neufahrwasser and Breslau, 1° at Memel, and 2° at Warsaw; below 10° over most parts of central Europe and the south of Russia, below 20° over France, and below 32° over the central and south-eastern parts of England. Daily maxima below 20° over Germany and the Netherlands and below the freezing point in many parts of England.

Wind Easterly or North-Easterly over the greater part of the British Islands and the Continent; strong to a gale in force on the more exposed parts of the English and Irish coasts. Light or moderate from the Westward over the northern parts of Russia and Scandinavia, Northerly in the south of Russia, Southerly in Algeria. No important change taking place over western Europe during day.

Barometer highest, 30·6 ins. to 30·8 ins., or rather more, in a large anticyclone lying over western Russia, the Baltic, Scandinavia, the northern parts of the North Sea, and the north and east of Scotland. Lowest, 29·7 ins. and less in a depression lying off the south-west of Spain, 29·9 ins. and less in another lying over the north of Russia. Depression off Spanish coasts subsequently moving slowly northwards and gradients for Easterly winds becoming somewhat steep over England and Ireland.

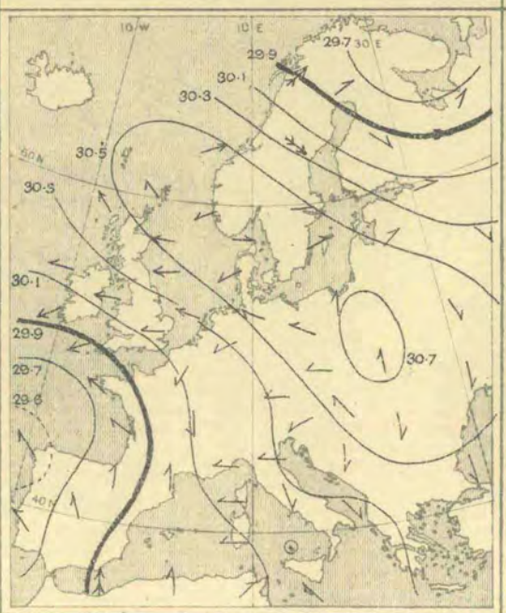
Wednesday, 31st December.

Temperature and Weather.

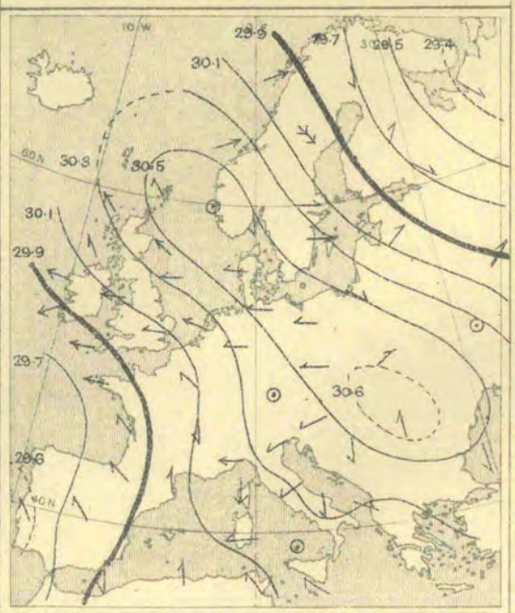
8 a.m.

Barometer and Wind.

8 a.m.



6 p.m.



Weather in morning fine and bright over central and south-eastern Europe and on the eastern shores of the North Sea; dull generally elsewhere—rainy at Bodö, snow at Dungeness and Lorient. Sleet or cold rain over the south-western, southern, and eastern parts of our Islands later, as well as in the west of France, but not in large quantities; considerable fall at Lisbon and a heavy fall at Cette.

Temperature risen over Spain and France, as well as over central Russia, the Baltic, and Lapland; changed irregularly elsewhere, fallen in most parts of our Islands, but beginning to rise again over England. Lowest morning values, (1) −5° Fahr. at Kiev and Cracow, −4° at Breslau, −1° at Warsaw and Neufahrwasser, and below 20° over the whole of central Europe; (2) 11° at Archangel and 21° at Stockholm; much below the freezing point over the greater part of England (22° at Oxford). Rising steadily but slowly over the British Islands later and frost giving way a little, but remaining very cold over central Europe.

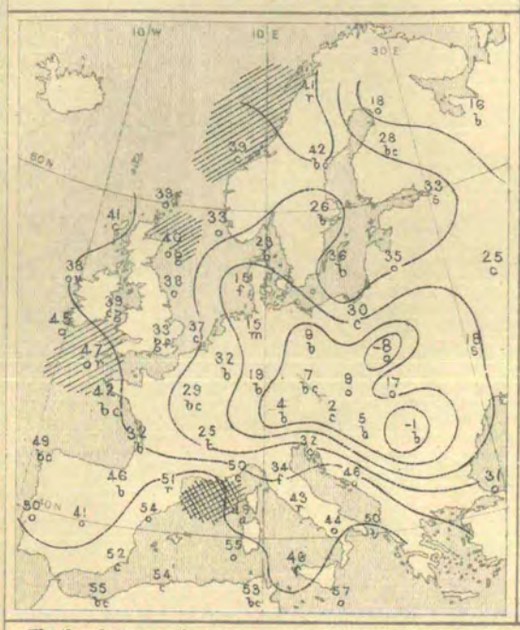
Wind strong from South-East and East over the British Islands and English Channel, moderate to fresh from the same quarters over Germany, the north and west of France, Spain, and Bay of Biscay; strong to a gale from South-West in the north of Norway and from North-West to West over Finland, Sweden, and central Russia; very light and variable elsewhere. Moderating over the United Kingdom later and becoming South-Westerly at Moscow, Riga, and Kuopio; very little change elsewhere.

Barometer highest, 30·7 ins. to 30·8 ins. in a large anticyclone covering central Europe, Denmark, the southern half of Scandinavia, the North Sea, and Scotland. Lowest, 29·8 ins. to 29·5 ins. over the Bay of Biscay and off the coast of Portugal, 29·8 ins. and less over northern Europe. Beginning to rise over France later, but continuing to fall somewhat over the British Islands, northern Europe, and Russia.

Judd & Co Lith. 73 & 75 Farringdon Rd & Doctors Commons

Thursday, 1st January, 1891.

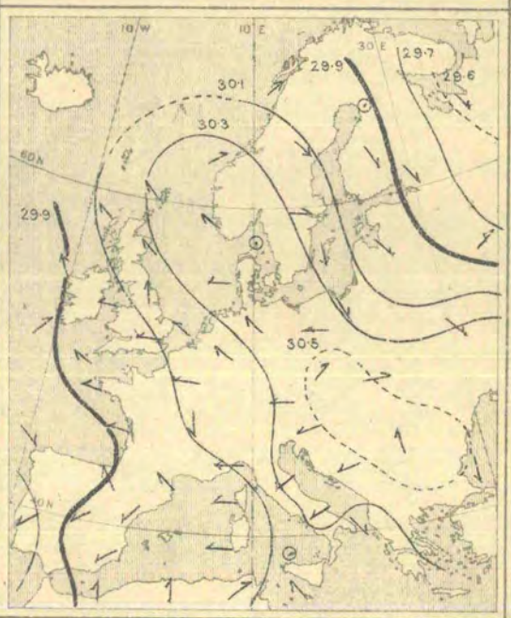
Temperature and Weather. 8 a.m.



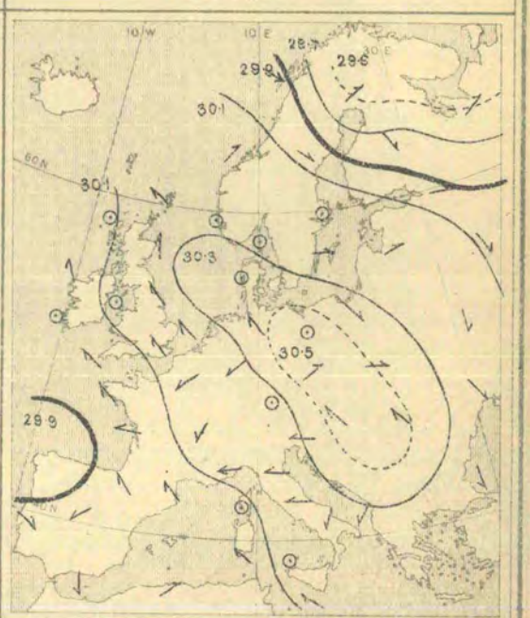
Weather dull over the greater part of the United Kingdom, as well as over Russia and southern Europe; a little rain falling at Spurn Head and Scilly, and also in Italy and the south of France, snow at several of the Russian stations. Weather fine over Scandinavia, Denmark, the Netherlands, France, Germany, and Austria. Sky clearing later in the extreme south-east of England and some parts of Scotland; snow ceasing in Russia.

Temperature highest, 57° at Malta, 55° at Cagliari and Oran, and 54° at Algiers; above 50° at many of the Mediterranean stations and above 45° on the south-west coasts of the United Kingdom. Lowest, −8° Fahr. at Warsaw, −1° at Hermanstadt, +2° at Vienna, 3° at Breslau, and 4° at Munich; below 10° in many parts of southern Europe and below 20° in the north of Russia, but above the freezing point over England. Rising during day to between 35° and 40° over England; exceeding 50° in the west of France and over southern Europe; exceeding 60° in Algeria.

Barometer and Wind. 8 a.m.



6 p.m.

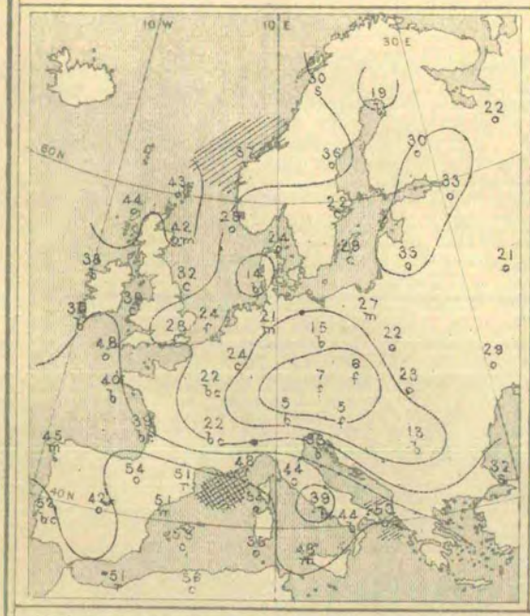


Wind fresh or strong from the South-Eastward in Ireland, moderate from the same quarter over Scotland and the east coasts of England. Light or moderate from the Eastward or North-Eastward over France, Spain, Italy, and western Germany. Moderate to strong from the North-Westward over Sweden and the Baltic and light from the same quarter in Russia; light and variable over Austria and central Germany. Subsequently falling light in the south of Ireland, no important change elsewhere.

Barometer highest, 30·3 ins. to 30·6 ins. in a large anticyclone extending south-eastwards from Norway and the extreme north of Scotland to the Black Sea. Lowest, 28·8 ins. and less in a depression lying over northern Russia, and also in another system lying to the south-westward of the Spanish peninsula. Anticyclone partially dispersing later; depression over northern Russia becoming more clearly defined.

Friday, 2nd January.

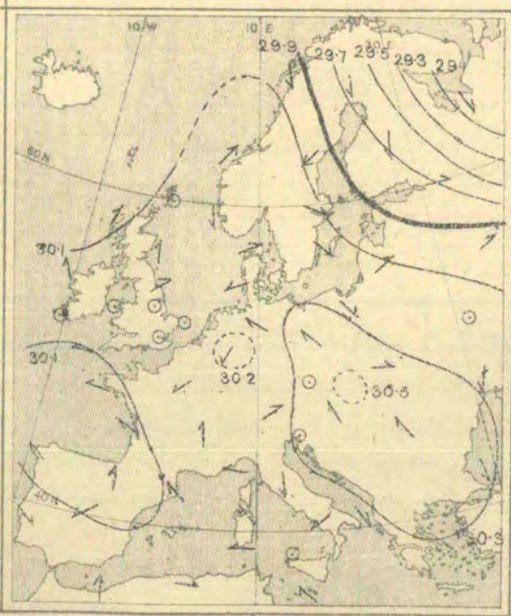
Temperature and Weather. 8 a.m.



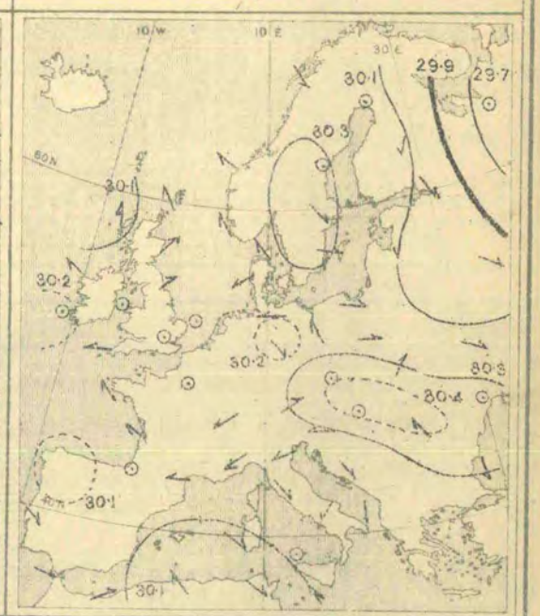
Weather in morning fine and bright over the greater part of south-eastern Europe, as well as in the west of Ireland; cloudy or overcast elsewhere, with thick fog in many parts of England and the west of Austria, haze in the Channel, snow at Bodö, rain at Christiansund, at Pembroke, Roche's Point, Perpignan, and Oran. Some rain at all our western and northern stations later. Thick fog over England and in many parts of neighbouring countries.

Temperature fallen again over Great Britain and France; frost prevailing all over eastern and central Europe, France, and central parts of England. Lowest readings, 5° to 13° Fahr. over Austria and Germany, 13°-to 30° over greater part of Russia, 19° at the Helder, 22° at Paris, 24° at Oxford, 28° in London, 30° at Valencia Island. Highest, 50° and more in Algeria, the south-west of Spain, and at Brindisi and Malta; 42° to 44° in the north of Scotland. Very changeable at Valencia Island during day, remaining cold and frosty at most inland stations.

Barometer and Wind. 8 a.m.



6 p.m.



Wind moderate to fresh from between North and West over Sweden, the Gulf of Bothnia, Finland, and the Baltic; light Southerly on our own northern coasts, Easterly over the Channel and Bay of Biscay; strong Easterly in the south of France, calm over England and Ireland, very variable and light elsewhere. No important modification later beyond calms becoming more prevalent.

Barometer highest, 30·5 ins. to 30·3 ins. in a large anticyclone lying over south-eastern and central Europe, with the North Sea and south of Norway (central area over Austria). Lowest, 29·1 ins. and less over north-east of Russia, 30·1 ins. and less over the west of the Spanish Peninsula and over our extreme north-western coasts; small shallow depression near Münster. Rising slightly in our Islands later and easterly edge of a new anticyclone appearing near Valencia.

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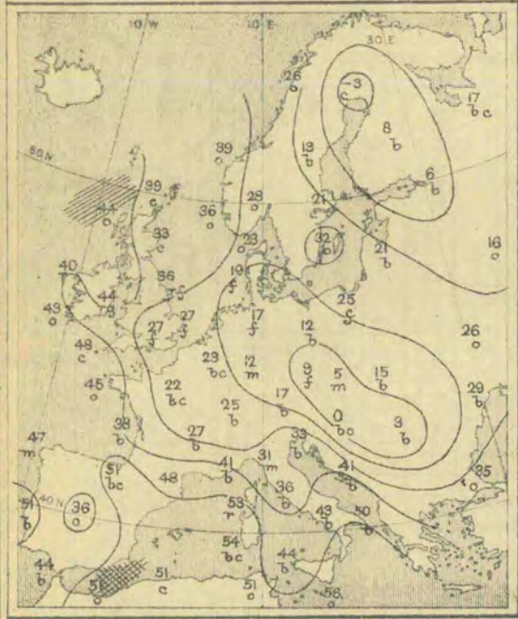
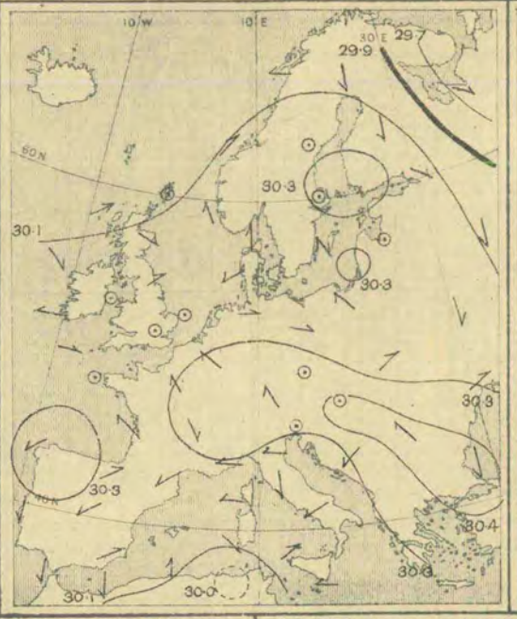
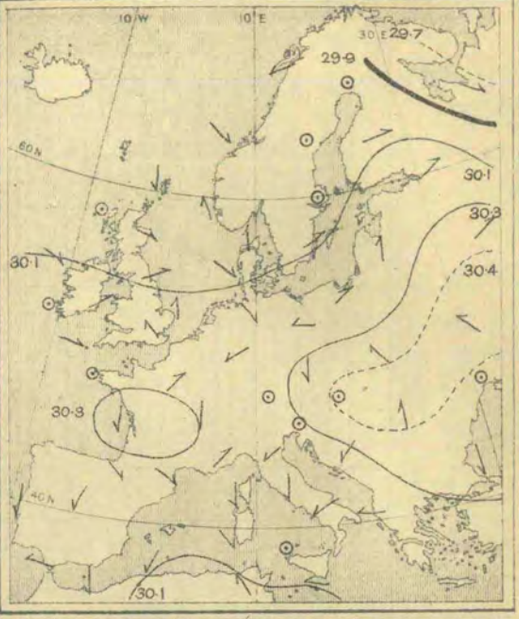
Saturday, 3rd January.

Temperature and Weather.	Barometer and Wind.	
8 a.m.	8 a.m.	6 p.m.







Weather foggy at many of the English stations, as well as in Holland and some parts of Germany; dull in the west and north of our Islands, and also over the west of Norway, central Russia, and Algeria, with rain in the north of England. Fine over Sweden, the Baltic, northern Russia, and the greater part of central and southern Europe. Rain or sleet falling later over nearly the whole of the United Kingdom, and snow at some of the Norwegian, Danish, and Russian stations; a few flakes of snow at Laghouat (central Algeria) in evening.

Temperature highest, 56° at Malta, 54° at Cagliari, 53° at Sanguinaire, and 52° at Tunis; above 45° at most of the Mediterranean stations, as well as on the coasts of the Iberian Peninsula and at the mouth of the English Channel. Lowest, (1) −3° Fahr. at Haparanda, −1° at Uleaborg, and +6° at St. Petersburg; (2) 0° zero at Buda Pesth, 3° at Hermanstadt, and 5° at Cracow; below 20° in most parts of central Europe and below the freezing point over the eastern and central parts of England. Brisk rise taking place over England later, where daily maxima varied between 35° and 40°.

Wind light or moderate from the Southward or South-Westward over the northern parts of our Islands and the west of Norway. Light from the Eastward over the Channel and France and from the North-Eastward over the greater part of Spain and Italy. Light Northerly in Russia, variable over central Europe, calm over the inland parts of England and Ireland. Light South-Westerly or Westerly breezes setting in later over the greater part of the United Kingdom.

Barometer highest, 30·4 ins. and upwards in an elongated area extending from Austria to Asia Minor, 30·2 ins. and upwards in an irregularly-shaped anticyclone lying over nearly the whole of Europe. Lowest, 29·7 ins. and less in a depression lying over northern Russia, 30·0 ins. and less in a shallow disturbance lying to the northward of Tunis. New depression appearing later to the northward of Scotland and barometer falling in all parts of the United Kingdom.

Explanation of Charts.—In the two right-hand Charts the height of the barometer is expressed by isobars, the pressure corresponding to each line being given in inches and tenths. The prevalent winds are shown by arrows, which are drawn flying *with the wind*, the force is indicated thus: ⟿ = a heavy gale; ⟶ = a gale; → = a fresh to strong breeze; ⟶ = a light to moderate breeze; and ⊙ = a calm. In the left-hand Chart the weather is indicated as follows:—b = blue sky; c = detached clouds; o = overcast; m = misty (hazy); f = foggy; q = squally; r = rain; h = hail; s = snow; l = lightning; and t = thunder. The general distribution of temperature is shown by isotherms, and the readings at selected stations are given in degrees Fahrenheit. Diagonal lines = rough sea, the shading being proportional to the disturbance.

N.B.—The Charts for 8 a.m. are prepared from observations made at 8 a.m. in the British Islands, Germany, Sweden, and Norway, and 7 a.m. in France, Algeria, Italy, Austria, and Russia; that for 6 p.m. is prepared from observations made at 6 p.m. in the British Islands and France, 7 p.m. in Algeria, 8 p.m. in Sweden and Norway, Germany, and Austria, and 9 p.m. in Russia, Belgium, and Italy. The time indicated in each case is the standard time for each country.

GENERAL NOTES.

During the past week anticyclonic conditions have continued to prevail over by far the greater part of Europe, and frost has again been experienced generally, the weather being especially severe over the more central countries. At the beginning of the period the central portion of the high-pressure system lay over the Baltic and western Russia, where the barometer ranged between 30·9 ins. and 31·0 ins. Towards the middle of the week, however, a large depression advanced over Russia from the northward, and the anticyclone became greatly reduced in height, its central portion ultimately moving away to Austria and the Black Sea. At the close of the time a new high-pressure system had advanced over France from the south-westward. The only depression of any importance, in addition to that already noticed, was observed on the 30th and 31st December, when a well-marked disturbance spread northwards from the Spanish Peninsula to our extreme south-west coasts, and occasioned Easterly gales in some parts of Ireland and England. On the 3rd January a shallow depression appeared off the north of our Islands and produced light Westerly winds in many parts of the Kingdom, with a temporary thaw.

WEEKLY WEATHER REPORT, 1890.

1. The present number of the Weekly Weather Report completes the issue for 1890 as far as the main body of the Report is concerned.

2. The following Appendix and Supplement to this Report have been published:—

   APPENDIX I., Parts I. to III.—Quarterly Summary of Rainfall, Temperature, and Bright Sunshine, January-March, April-June, and July-September, *price* 4d. *each.*

   SUPPLEMENT.—Monthly Summary of Observations, January to August, *price* 6d. *each.*

3. The following will appear very shortly:—

   APPENDIX I., Parts IV. (October-December) and V.—For the Whole Year.

   THE WHOLE OF APPENDICES II., III., and IV.

   MONTHLY SUMMARIES.—September to December.

   TITLE PAGE and FRONTISPIECE.

WEEKLY WEATHER REPORT, 1891.

This will commence with next week's issue.

New Columns have been added on the First and Second Pages, and the Means employed for Rainfall, Temperature, and Bright Sunshine are obtained from longer series of Observations than those used hitherto.

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(OFFICIAL COPY.)

QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1890.

VOL. VII. APPENDIX I.] *New Series.*

FIRST QUARTER—JANUARY TO MARCH.

[*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE FIRST QUARTER OF THE TWENTY-FIVE YEARS, 1866 TO 1890.

RAINFALL (in Inches).

YEARS.	0. Scotland, N.		Principal Wheat-producing Districts.										Principal Grazing, &c. Districts.										Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Graz-ing, &c. Districts.			
	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
1866	—	14·8	—	11·3	—	5·8	—	7·4	—	7·1	—	11·4	—	8·6	—	15·4	—	13·4	—	16·9	—	13·7	—	12·0	—	14·3	—	—	—	11·5
1867	—	10·7	—	9·5	—	5·4	—	5·7	—	8·1	—	8·8	—	7·5	—	9·9	—	11·1	—	15·2	—	11·8	—	10·7	—	11·7	—	—	—	9·6
1868	—	19·1	—	11·7	—	4·9	—	5·4	—	6·7	—	7·5	—	7·2	—	17·6	—	13·3	—	11·9	—	13·0	—	10·5	—	13·3	—	—	—	10·3
1869	—	11·8	—	8·9	—	6·2	—	6·2	—	7·7	—	9·0	—	7·6	—	11·4	—	12·2	—	14·0	—	12·1	—	12·1	—	12·4	—	—	—	10·0
1870	—	6·4	—	6·7	—	4·8	—	3·9	—	5·1	—	6·0	—	5·3	—	8·8	—	9·0	—	10·7	—	8·6	—	9·7	—	9·4	—	—	—	7·4
1871	—	9·4	—	6·9	—	3·8	—	3·9	—	4·8	—	6·1	—	5·1	—	11·7	—	8·7	—	10·0	—	10·7	—	9·4	—	10·1	—	—	—	7·6
1872	—	8·2	—	11·2	—	7·8	—	6·1	—	9·8	—	10·1	—	9·0	—	15·2	—	14·0	—	19·5	—	12·7	—	13·1	—	14·9	—	—	—	12·0
1873	—	7·9	—	7·2	—	5·3	—	5·4	—	7·1	—	8·4	—	6·7	—	10·0	—	9·6	—	14·1	—	8·8	—	11·9	—	10·9	—	—	—	8·8
1874	—	11·5	—	6·5	—	3·5	—	3·1	—	5·7	—	4·4	—	4·6	—	8·6	—	11·0	—	12·5	—	8·4	—	7·7	—	9·6	—	—	—	7·1
1875	—	8·4	—	7·0	—	3·9	—	3·7	—	5·8	—	6·7	—	5·4	—	9·8	—	8·7	—	12·6	—	7·1	—	10·2	—	9·7	—	—	—	7·6
Means for 10 years, 1866-75	—	10·8	—	8·7	—	5·1	—	5·1	—	6·8	—	7·8	—	6·7	—	11·8	—	11·1	—	13·7	—	10·7	—	10·7	—	11·6	—	—	—	9·2
1876	—	13·4	—	9·5	—	6·3	—	6·7	—	8·2	—	7·5	—	7·6	—	12·1	—	12·0	—	10·9	—	10·0	—	10·0	—	11·0	—	—	—	9·3
1877	—	11·9	—	9·8	—	7·1	—	7·6	—	8·3	—	10·7	—	8·7	—	14·2	—	15·4	—	14·2	—	13·4	—	11·4	—	13·7	—	—	—	11·2
1878	67	9·3	40	4·3	45	4·8	52	4·5	43	3·9	42	5·1	44	4·5	53	11·0	51	7·2	41	6·1	60	8·3	52	7·8	51	8·1	56	6·1	48	6·3
1879	54	5·5	46	6·9	55	5·1	54	6·2	48	6·1	49	8·2	50	6·5	47	8·5	43	6·7	54	11·2	60	6·7	55	11·2	52	8·9	63	11·7	51	7·7
1880	49	7·4	41	5·5	34	3·3	38	3·4	35	4·3	38	4·7	37	4·2	49	10·3	40	6·2	47	6·9	49	7·5	50	9·8	47	8·1	50	6·0	42	6·2
1881	60	9·2	46	7·4	51	6·3	47	5·8	42	6·4	39	6·7	45	6·5	46	9·5	42	8·6	45	9·7	51	7·7	44	8·7	46	8·8	51	9·0	46	7·7
1882	72	10·3	48	5·2	32	3·1	32	4·3	35	5·6	34	3·6	36	4·4	62	11·9	49	7·8	49	7·1	63	8·3	59	9·7	57	9·0	48	5·8	47	6·7
1883	65	8·9	52	6·5	53	5·8	51	6·4	49	7·4	49	7·5	51	6·7	56	12·2	51	8·5	55	10·4	63	10·2	57	13·8	57	11·0	63	8·8	54	8·9
1884	66	12·1	52	6·4	44	6·2	42	3·9	47	6·7	48	6·7	46	6·0	68	17·1	57	11·5	62	12·2	70	12·2	72	15·4	66	13·7	59	9·2	56	9·9
1885	63	9·1	46	5·4	45	4·4	48	5·3	50	6·1	45	7·3	47	5·7	57	11·9	53	7·7	54	9·1	57	8·4	58	11·8	56	9·8	62	8·2	52	7·8
Means for 10 years, 1876-85	—	9·7	—	6·7	—	5·2	—	5·4	—	6·3	—	6·8	—	6·1	—	11·9	—	9·2	—	9·8	—	9·3	—	11·0	—	10·2	—	—	—	8·2
1886	70	9·5	55	5·9	56	6·3	54	4·9	49	6·5	48	6·3	53	6·0	57	11·2	54	9·0	57	10·8	58	10·0	55	11·2	56	10·4	68	8·9	55	8·2
1887	60	12·1	43	5·3	38	3·8	33	3·8	35	4·1	34	4·1	36	4·2	47	9·7	38	5·9	38	5·5	47	7·3	40	7·6	41	7·2	42	4·3	39	5·7
1888	62	10·2	55	6·9	49	5·6	50	5·1	43	4·6	46	5·8	49	5·6	41	8·6	51	5·0	48	7·1	47	7·2	41	7·6	46	7·1	61	7·3	48	6·4
1889	72	13·8	52	4·8	46	4·8	47	3·9	43	5·6	47	5·1	47	4·8	58	10·6	51	6·0	48	9·1	66	8·6	55	8·6	56	8·6	58	6·7	52	6·7
1890	67	15·2	54	8·1	48	5·3	52	5·6	46	5·1	46	5·6	49	5·9	60	13·6	56	8·4	53	8·9	62	8·7	58	12·7	58	10·5	54	8·3	54	8·2
Means for 25 years, 1866-90	—	10·6	—	7·4	—	5·2	—	5·1	—	6·3	—	6·9	—	6·2	—	11·6	—	9·5	—	11·1	—	9·7	—	10·6	—	10·5	—	—	—	8·4

MEAN TEMPERATURE (in Degrees Fahrenheit).

YEARS.	0. Scotland, N.	Principal Wheat-producing Districts.					Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
		1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for the Graz-ing, &c. Districts.		
1866	38°3	38°8	39°1	40°9	40°4	41°9	40°2	40°0	40°6	43°4	39°9	40°3	40°8	40°5
1867	36·9	37·2	36·8	38·6	38·2	39·2	38·0	37·7	38·6	41·4	38·1	39·9	39·1	38·6
1868	40·7	41·7	41·1	41·4	41·9	42·0	41·6	42·3	42·4	44·4	42·1	44·3	43·1	42·4
1869	40·0	40·3	40·6	41·1	41·2	42·0	41·0	42·0	42·1	45·1	42·9	44·6	43·3	42·2
1870	37·9	37·4	37·1	37·4	38·0	38·2	37·6	38·6	38·7	41·3	39·8	41·6	40·0	38·8
1871	40·0	39·7	38·8	39·2	40·1	40·3	39·6	40·0	40·0	43·3	41·6	43·4	41·7	40·7
1872	40·9	40·9	41·3	42·3	42·9	43·7	42·2	42·9	43·3	46·1	42·4	44·5	43·8	43·0
1873	39·0	38·4	38·5	38·9	39·1	39·9	39·0	39·2	39·7	42·6	39·8	41·0	40·5	39·8
1874	41·7	41·8	41·3	40·4	41·0	42·0	41·3	42·3	44·8	45·0	42·8	45·2	43·4	42·4
1875	39·5	39·0	38·8	38·6	39·2	40·2	39·2	39·8	40·2	42·9	41·6	44·6	41·8	40·5
Means for 10 years, 1866-75	39·5	39·5	39·3	39·9	40·2	40·9	40·0	40·5	40·7	43·6	40·1	42·9	41·8	40·9
1876	38·7	38·3	39·2	39·0	38·9	40·0	39·1	39·5	39·8	42·4	40·1	43·3	41·0	40·1
1877	38·4	38·8	40·4	41·7	41·8	43·1	41·2	40·5	41·8	44·9	41·4	45·2	42·8	42·0
1878	39·4	40·1	40·8	40·6	41·8	41·7	41·0	41·9	42·2	44·2	42·5	45·1	43·2	43·8	42·1
1879	35·8	34·2	35·9	36·5	36·4	37·8	36·2	36·5	36·8	40·8	38·0	40·5	38·5	42·4	37·4
1880	40·6	39·8	39·5	39·2	39·9	40·5	39·8	41·3	40·6	43·5	42·2	44·1	42·3	42·4	41·1
1881	34·4	33·5	34·3	36·1	35·8	38·2	35·6	35·3	36·6	39·9	37·5	39·8	37·8	44·5	36·7
1882	41·8	42·9	42·8	42·1	42·6	43·5	42·8	43·7	43·5	44·9	44·8	46·0	44·6	44·7	43·7
1883	38·7	38·8	38·8	39·0	39·2	40·8	39·3	40·2	40·1	42·2	40·9	42·5	41·2	41·8	40·3
1884	40·7	41·2	41·9	42·4	42·6	43·8	42·4	42·4	42·4	44·5	42·7	44·8	43·4	46·5	42·9
1885	38·4	38·3	39·2	39·2	39·3	40·7	39·3	39·6	39·7	41·9	40·6	42·2	40·8	43·9	40·1
Means for 10 years, 1876-85	38·7	38·6	39·3	39·6	39·8	41·0	39·7	40·1	40·4	42·9	41·1	43·4	41·6	—	40·6
1886	36·5	36·1	36·2	35·6	36·0	37·2	36·2	37·2	36·9	38·4	38·6	40·0	38·2	42·0	37·2
1887	39·4	39·2	38·7	37·5	37·8	38·7	38·4	39·8	39·0	40·4	41·3	42·3	40·6	42·7	39·5
1888	36·2	36·3	37·3	36·5	36·8	37·4	36·9	38·1	37·7	38·5	39·4	40·5	38·8	41·6	37·9
1889	38·5	38·6	38·6	37·5	38·2	39·0	38·4	40·1	39·7	40·8	41·3	42·9	41·0	44·1	39·7
1890	40·0	39·8	40·7	40·1	40·4	41·6	40·5	41·3	41·2	42·7	42·0	43·5	42·1	45·7	41·3
Means for 25 years, 1866-90	38·9	38·8	39·1	39·3	39·6	40·5	39·5	40·1	40·2	42·6	41·0	42·9	41·4	—	40·5

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FIVE YEARS, 1866 TO 1890.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 4·2 in 1880 and 1887	Ins. 7·1 in 1888	Ins. 5·7 in 1887
	Wettest	9·9 in 1872	14·9 in 1872	12·0 in 1872
Temperature	Coldest	35°6 in 1881	37°8 in 1881	36°7 in 1881
	Warmest	42°8 in 1882	44°6 in 1882	43°7 in 1882

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE FIRST QUARTER, 1890.

YEAR AND MONTHS.	Principal Wheat-producing Districts.														Principal Grazing, &c. Districts.														Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat Producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.					
	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																														
January	24	24	20	20	15	15	17	17	19	19	17	17	18	18	25	25	23	23	23	23	25	25	23	23	24	24	24	24	21	21
February	15	39	11	31	11	26	13	30	10	29	12	29	11	29	12	37	12	35	12	35	14	39	16	39	13	37	15	39	12	33
March	28	67	23	54	22	48	22	52	17	46	17	46	20	49	23	60	21	56	18	53	23	62	19	58	21	58	15	54	21	54
RAINFALL.—AMOUNTS IN INCHES.																														
January	6·66	6·66	4·45	4·45	1·52	1·52	1·33	1·33	2·13	2·13	2·14	2·14	2·31	2·31	7·64	7·64	3·89	3·89	4·54	4·54	4·67	4·67	5·65	5·65	5·28	5·28	3·60	3·60	3·80	3·80
February	2·38	9·04	1·16	5·61	1·44	2·96	1·64	2·97	1·64	3·77	1·77	3·91	1·53	3·84	1·78	9·42	1·54	5·43	2·31	6·85	1·24	5·91	3·35	9·00	2·04	7·32	3·09	6·69	1·79	5·59
March	6·15	15·19	2·51	8·12	2·31	5·27	2·61	5·58	1·28	5·05	1·71	5·62	2·08	5·92	4·22	13·64	2·98	8·41	2·06	8·91	2·77	8·68	3·73	13·73	3·15	10·47	1·45	8·34	2·62	8·21
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																														
January	61	61	65	65	69	69	79	79	88	88	102	102	81	81	73	73	78	78	119	119	87	87	120	120	95	95	150	150	88	88
February	25	86	22	87	16	85	16	95	23	111	42	144	24	105	29	102	26	104	58	177	33	120	72	192	44	139	117	267	34	122
March	58	144	94	181	94	179	117	212	122	233	110	254	107	212	90	192	88	192	110	287	101	221	126	318	103	242	135	402	105	227
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																														
January	84	84	102	102	103	103	125	125	119	119	68	68	103	103	59	59	66	66	52	52	64	64	37	37	56	56	20	20	80	80
February	117	201	154	256	107	210	129	254	144	263	98	166	126	229	107	166	108	174	82	134	106	170	82	119	97	153	20	40	112	192
March	139	340	127	383	98	308	130	384	116	379	105	271	115	344	100	266	82	256	83	217	87	257	81	200	87	240	31	71	101	293
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																														
January	13	13	30	30	30	30	48	48	44	44	43	43	39	39	28	28	29	29	43	43	50	50	52	52	40	40	46	46	40	40
February	59	72	58	88	57	87	81	129	56	100	66	109	64	103	42	70	62	91	76	119	54	104	68	120	60	100	96	142	62	102
March	80	152	108	196	96	183	114	243	106	206	113	222	107	210	104	174	97	188	137	256	101	205	127	247	113	213	169	311	110	212
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																														
January	6	5	15	11	14	11	22	20	19	16	19	16	18	15	13	12	14	12	18	19	24	23	24	21	19	17	16	21	19	16
February	24	13	24	21	23	20	31	26	22	21	26	21	25	22	17	16	24	18	29	23	22	23	27	25	24	21	35	25	25	22
March	20	17	27	22	24	20	28	27	26	23	28	24	27	23	27	19	24	22	34	28	26	22	31	26	28	23	42	34	28	23

1890.

EXPLANATION OF TABLES.

TABLES I. and IA. are published in continuation of those given in the Quarterly Summaries of the Weekly Weather Reports, 1884-89. The whole of the values for 1878-90, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *January* are those for the first four weeks in the year; those for *February* are for the fifth to the eighth weeks; those for *March* are for the ninth to the thirteenth weeks.

The figures given in the columns headed "From Dec. 29" are the values for the whole period elapsed since the beginning of the first week of this year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

(OFFICIAL COPY.)

QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1890.

VOL. VII. APPENDIX I.] *New Series.*

SECOND QUARTER—APRIL TO JUNE.

[*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE SECOND QUARTER OF THE TWENTY-FIVE YEARS, 1866 TO 1890.

	YEARS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
		0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.					
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches).	1866	—	6·2	—	4·8	—	5·2	—	6·0	—	6·3	—	6·7	—	5·8	—	5·1	—	6·3	—	6·5	—	6·7	—	8·2	—	6·6	—	—	—	6·2
	1867	—	10·6	—	8·0	—	6·8	—	6·2	—	6·7	—	5·8	—	6·7	—	10·5	—	8·3	—	10·0	—	10·0	—	9·3	—	9·6	—	—	—	8·2
	1868	—	10·9	—	6·1	—	3·7	—	3·2	—	3·3	—	4·1	—	4·1	—	7·7	—	4·4	—	5·9	—	6·6	—	6·3	—	6·2	—	—	—	5·2
	1869	—	6·7	—	5·3	—	7·5	—	5·0	—	7·5	—	6·6	—	6·4	—	4·8	—	7·6	—	8·2	—	7·7	—	7·2	—	6·2	—	—	—	6·8
	1870	—	9·5	—	4·1	—	4·3	—	2·3	—	2·5	—	2·4	—	3·1	—	7·4	—	5·7	—	4·2	—	6·4	—	4·6	—	5·7	—	—	—	4·4
	1871	—	4·3	—	6·1	—	7·5	—	7·5	—	7·7	—	7·3	—	7·3	—	8·3	—	7·7	—	8·4	—	7·5	—	7·7	—	7·9	—	—	—	7·6
	1872	—	11·4	—	10·4	—	7·4	—	6·6	—	8·6	—	8·5	—	8·3	—	11·2	—	12·0	—	10·9	—	9·8	—	7·6	—	10·3	—	—	—	9·3
	1873	—	7·9	—	5·9	—	4·8	—	4·7	—	5·6	—	4·3	—	5·1	—	5·1	—	4·7	—	5·9	—	6·3	—	5·1	—	5·4	—	—	—	5·3
	1874	—	10·0	—	4·5	—	3·4	—	3·9	—	3·9	—	5·3	—	4·2	—	5·5	—	5·0	—	4·5	—	6·8	—	4·2	—	5·2	—	—	—	4·7
	1875	—	8·7	—	5·5	—	4·2	—	4·9	—	6·4	—	6·0	—	5·4	—	6·5	—	7·6	—	9·8	—	7·0	—	6·5	—	7·5	—	—	—	6·4
	Means for 10 years, 1866-75	—	8·6	—	6·1	—	5·5	—	5·0	—	5·8	—	5·7	—	5·6	—	7·2	—	6·9	—	7·4	—	7·5	—	6·7	—	7·1	—	—	—	6·4
	1876	—	8·4	—	6·1	—	6·2	—	4·9	—	5·5	—	4·9	—	5·5	—	6·4	—	7·0	—	5·5	—	5·6	—	5·0	—	5·9	—	—	—	5·7
	1877	—	10·1	—	8·8	—	6·7	—	5·6	—	6·8	—	6·2	—	6·8	—	9·5	—	8·4	—	11·2	—	8·5	—	10·9	—	9·7	—	—	—	8·3
	1878	38	3·7	38	6·2	44	7·6	54	8·2	56	9·2	51	8·4	48	7·9	42	8·7	48	8·3	58	11·6	49	9·1	62	13·9	52	10·3	61	10·6	51	9·1
	1879	46	4·5	56	8·3	57	8·3	58	10·1	64	10·0	58	10·3	61	9·4	51	9·9	55	8·4	61	11·3	58	10·0	63	11·6	57	10·2	64	8·9	59	9·8
	1880	46	4·9	43	4·9	44	6·6	50	7·2	48	7·2	43	5·5	45	6·1	46	8·0	40	6·7	38	5·4	53	8·5	46	7·8	45	7·3	49	4·6	45	6·7
	1881	49	7·0	45	5·6	41	4·5	35	4·3	37	4·3	33	4·2	38	4·6	49	9·3	44	8·6	42	6·1	55	8·5	48	8·3	47	8·2	41	4·6	43	6·4
	1882	51	7·4	51	7·4	47	9·2	48	8·0	49	9·9	47	7·9	48	8·5	51	10·5	51	10·6	55	10·2	60	9·4	56	10·3	55	10·2	49	6·6	52	9·3
	1883	48	5·7	40	3·8	39	6·0	36	6·7	39	7·2	36	5·1	38	5·8	45	7·8	38	5·9	42	6·1	52	6·2	44	7·6	44	6·7	42	5·9	41	6·2
	1884	48	6·4	39	3·6	39	3·2	33	3·8	32	4·2	31	4·7	35	3·9	40	5·4	32	3·8	32	4·9	42	5·8	38	4·6	37	4·9	42	4·9	37	4·4
	1885	61	6·8	46	5·5	48	6·1	43	6·5	48	6·8	43	6·0	46	6·2	48	7·3	45	6·0	50	8·7	50	6·1	46	7·8	48	7·2	50	6·0	47	6·7
	Means for 10 years, 1876-85	—	6·5	—	6·0	—	6·5	—	6·4	—	7·1	—	6·3	—	6·5	—	8·3	—	7·4	—	8·1	—	7·8	—	8·8	—	8·1	—	—	—	7·3
	1886	59	6·7	46	6·4	46	6·1	43	5·2	50	9·4	45	6·4	46	6·7	48	8·8	49	9·4	46	7·3	50	7·9	50	8·2	49	8·3	50	6·2	48	7·5
	1887	45	6·2	32	3·7	33	3·0	35	3·6	31	4·0	31	3·8	32	3·6	34	5·8	27	3·8	29	3·5	29	4·5	26	3·3	29	4·2	35	3·8	31	3·9
	1888	56	8·5	44	7·1	43	5·1	43	5·1	41	6·0	42	6·2	43	5·9	49	11·4	43	6·4	46	7·5	50	9·8	49	10·1	47	9·0	50	6·6	45	7·5
	1889	50	4·9	42	5·8	39	5·0	43	7·3	41	8·1	41	5·7	41	6·4	44	7·7	40	6·8	40	5·9	45	7·2	46	7·6	43	7·0	39	5·3	42	6·7
	1890	58	8·5	52	5·6	41	4·7	41	4·5	40	4·7	42	6·3	43	5·2	50	10·1	45	6·0	51	8·1	54	6·3	58	8·5	52	7·8	55	7·7	48	6·5
	Means for 25 years, 1866-90	—	7·4	—	6·0	—	5·7	—	5·7	—	6·5	—	6·0	—	6·0	—	7·9	—	7·0	—	7·5	—	7·5	—	7·7	—	7·5	—	—	—	6·8
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866	48°2		48°1		48°0		52°2		51°7		52°9		50°6		50°9		50°6		53°0		51°9		51°4		51°6		°		51°1	
	1867	47·2		49·9		48·5		52·7		52·2		52·8		51·2		51·1		51·6		53·6		53·1		52·9		52·5		—		51·9	
	1868	49·7		52·3		52·1		55·1		55·7		54·8		54·0		52·3		53·5		55·0		52·8		54·6		53·6		—		53·8	
	1869	47·7		49·4		49·2		50·9		51·6		51·7		50·6		50·1		50·3		53·5		51·3		52·6		51·6		—		51·1	
	1870	49·5		52·5		51·4		52·8		54·4		53·5		52·9		51·9		52·8		54·3		53·2		53·5		53·1		—		53·0	
	1871	47·2		48·4		47·9		49·5		51·7		51·2		49·7		50·8		50·7		53·7		52·4		53·9		52·3		—		51·0	
	1872	48·2		49·7		49·7		52·0		51·3		51·9		50·9		50·3		51·0		51·9		50·5		51·6		51·1		—		51·0	
	1873	47·9		49·8		49·1		49·8		51·6		51·7		50·4		51·7		51·3		52·5		51·9		53·2		52·1		—		51·3	
	1874	48·4		49·6		49·9		51·3		52·4		52·7		51·2		51·1		51·4		54·0		51·5		54·3		52·5		—		51·9	
	1875	49·3		51·4		51·2		52·4		52·8		52·9		52·1		51·7		52·0		53·1		51·9		53·3		52·4		—		52·3	
	Means for 10 years, 1866-75	48·3		50·1		49·7		51·9		52·5		52·6		51·4		51·2		51·5		53·5		52·1		53·1		52·3		—		51·8	
	1876	48·2		49·7		49·8		51·1		51·3		51·3		50·6		50·3		50·5		52·1		49·8		52·2		51·0		—		50·8	
	1877	46·6		47·5		48·4		50·8		51·1		51·8		49·9		49·1		49·5		52·3		49·3		52·2		50·5		—		50·2	
	1878	48·8		50·6		51·7		53·8		54·3		54·8		53·0		52·5		53·5		53·5		52·6		53·7		53·2		54·9		53·1	
	1879	45·0		46·8		47·5		48·8		49·0		49·8		48·4		48·4		48·6		50·0		48·4		50·0		49·1		50·7		48·8	
	1880	47·6		49·9		49·5		51·1		50·9		52·0		50·7		50·5		50·5		52·3		50·4		52·1		51·2		52·2		51·0	
	1881	46·8		50·1		50·6		52·6		52·9		53·5		51·9		50·8		51·8		52·5		51·8		52·8		51·9		53·4		51·9	
	1882	47·5		49·4		50·4		52·4		52·2		53·8		51·6		50·7		51·8		52·4		51·2		52·2		51·7		53·9		51·7	
	1883	47·3		50·1		50·2		52·1		52·2		52·9		51·5		50·0		51·0		51·7		50·5		51·5		50·9		52·6		51·2	
	1884	46·8		49·4		50·0		51·2		51·4		52·4		50·9		50·1		50·6		51·5		50·6		51·8		50·9		52·6		50·9	
	1885	45·8		48·6		49·0		50·5		50·2		51·8		50·0		48·3		49·0		50·0		48·7		49·6		49·1		51·1		49·6	
	Means for 10 years, 1876-85	47·0		49·2		49·7		51·4		51·6		52·4		50·9		50·1		50·7		51·8		50·3		51·8		50·9		—		50·9	
	1886	45·6		47·8		47·9		50·5		50·5		52·0		49·7		48·1		49·4		51·2		48·9		50·8		49·7		52·1		49·7	
	1887	48·4		50·5		50·3		51·4		52·0		52·4		51·3		51·0		51·2		52·6		52·2		53·3		52·1		53·2		51·7	
	1888	46·5		47·6		48·4		50·5		50·5		51·1		49·6		49·4		49·9		50·8		50·0		51·8		50·4		51·9		50·0	
	1889	49·7		50·9		51·3		53·1		53·4		54·7		52·7		51·9		52·6		53·0		51·7		52·4		52·3		54·0		52·5	
	1890	48·0		49·2		49·8		51·4		51·2		52·6		50·8		50·2		51·0		52·0		50·9		52·1		51·2		52·9		51·0	
	Means for 25 years, 1866-90	47·7		49·6		49·7		51·6		51·9		52·5		51·1		50·5		51·0		52·5		51·1		52·4		51·5		—		51·3	

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FIVE YEARS, 1866 TO 1890.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 3·1 in 1870	Ins. 4·2 in 1887	Ins. 3·9 in 1887
	Wettest	9·4 in 1879	10·3 in 1872 and 1878 10·2 in 1879 and 1882	9·8 in 1879
Temperature	Coldest	48°4 in 1879	49°1 in 1879 and 1885	48°8 in 1879
	Warmest	54·0 in 1868	53·6 in 1868	53·8 in 1868

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE SECOND QUARTER, 1890.

YEAR AND MONTHS.	0. Scotland, N.		Principal Wheat-producing Districts.										Principal Grazing, &c. Districts.										Means for the &c. Grazing, Districts.		Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.							
	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																												
April	16	83	15	69	12	60	14	66	13	59	16	62	14	63	12	72	12	68	16	69	14	76	15	73	14	72	18	72	14	68
May	14	97	14	83	12	72	10	76	12	71	11	73	12	75	16	88	15	83	15	84	17	93	21	94	17	89	18	90	15	83
June	28	125	23	106	17	89	17	93	15	86	15	88	17	92	22	110	18	101	20	104	23	116	22	116	21	110	19	109	19	102
RAINFALL.—AMOUNTS IN INCHES.																												
April	2·74	17·93	1·18	9·30	0·64	5·80	0·90	6·48	0·93	5·98	2·44	8·06	1·22	7·12	1·98	15·62	1·09	9·50	2·66	11·57	1·23	9·91	1·38	14·11	1·67	12·14	2·07	10·41	1·45	9·65
May	1·13	19·06	1·77	11·07	1·97	7·77	1·56	8·04	2·13	8·11	1·66	9·72	1·82	8·94	2·91	18·53	2·03	11·53	2·47	14·04	1·55	11·46	3·71	17·82	2·53	14·67	2·77	13·18	2·18	11·83
June	4·59	23·65	2·65	13·72	2·09	9·86	2·03	10·07	1·62	9·73	2·17	11·89	2·11	11·05	5·21	23·74	2·89	14·42	2·91	16·98	3·54	15·00	3·39	21·21	3·59	18·26	2·90	16·08	2·85	14·68
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																												
April	98	242	120	301	99	278	133	345	139	373	152	406	129	342	133	325	125	317	151	438	144	365	172	489	145	387	171	573	137	365
May	230	472	233	534	240	518	289	634	293	666	315	721	274	616	279	604	290	607	283	721	261	626	263	751	275	662	308	881	275	640
June	289	761	378	912	434	952	488	1122	471	1137	506	1227	455	1071	338	992	441	1048	477	1198	426	1052	491	1242	445	1107	490	1371	450	1090
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																												
April	87	427	90	473	72	380	72	456	84	463	33	303	70	414	53	319	43	300	27	244	38	295	25	225	37	277	0	71	54	347
May	8	435	9	482	9	389	12	468	13	476	2	305	9	423	5	324	2	302	1	245	0	295	0	225	2	279	0	71	6	353
June	3	438	3	485	0	389	0	468	2	478	0	305	1	424	1	325	0	302	0	245	0	295	0	225	0	279	0	71	1	354
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																												
April	146	298	150	346	123	306	142	385	124	330	133	355	134	344	166	340	134	322	157	413	154	359	171	418	156	369	148	459	145	357
May	165	463	144	490	164	470	218	603	182	512	207	562	183	527	167	507	156	478	184	597	168	527	159	577	167	536	257	716	175	532
June	128	591	188	678	146	616	205	808	182	694	191	753	182	709	194	701	184	662	192	789	180	707	168	745	184	720	211	927	183	715
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																												
April	38	23	39	28	32	24	38	31	33	27	36	29	36	28	44	26	35	26	42	33	41	28	46	32	42	29	40	38	39	29
May	37	27	33	29	38	27	51	34	43	29	49	31	43	30	39	30	36	28	43	34	39	30	38	34	39	31	62	40	41	31
June	21	27	31	30	25	27	36	36	32	31	34	34	32	32	33	32	32	30	34	35	31	32	30	34	32	33	38	41	32	33

1890.

EXPLANATION OF TABLES.

TABLES I. and IA. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-89. The whole of the values for 1878-90, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *April* are those for the fourteenth to seventeenth weeks in the year; those for *May* are for the eighteenth to the twenty-first weeks; those for *June* are for the twenty-second to the twenty-sixth weeks of the year.

The figures given in the columns headed "From Dec. 29" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

(OFFICIAL COPY.)

QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1890.

VOL. VII. APPENDIX I.] *New Series.* THIRD QUARTER—JULY TO SEPTEMBER. [*Price 4d.*

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE THIRD QUARTER OF THE TWENTY-FIVE YEARS, 1866 TO 1890.

	YEARS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
		0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Graz- &c. Districts.					
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches).	1866	—	11·8	—	10·6	—	9·3	—	7·9	—	11·7	—	9·7	—	9·8	—	15·1	—	16·1	—	15·2	—	12·0	—	8·9	—	13·5	—	—	—	11·7
	1867	—	10·0	—	10·1	—	7·1	—	7·1	—	7·4	—	8·6	—	8·1	—	12·9	—	10·4	—	8·7	—	11·8	—	8·8	—	10·5	—	—	—	9·3
	1868	—	9·7	—	10·4	—	6·0	—	4·2	—	7·1	—	7·2	—	7·0	—	9·1	—	6·7	—	9·5	—	8·1	—	11·0	—	8·9	—	—	—	8·0
	1869	—	12·8	—	7·0	—	5·8	—	5·6	—	6·4	—	6·0	—	6·2	—	10·4	—	11·5	—	9·9	—	9·4	—	8·5	—	9·9	—	—	—	8·1
	1870	—	8·6	—	5·8	—	3·5	—	5·8	—	4·5	—	4·8	—	4·9	—	6·8	—	5·0	—	7·0	—	7·6	—	5·7	—	6·4	—	—	—	5·7
	1871	—	13·0	—	8·7	—	9·7	—	7·5	—	10·8	—	10·3	—	9·4	—	9·8	—	11·8	—	14·2	—	11·1	—	10·5	—	11·5	—	—	—	10·5
	1872	—	12·1	—	12·5	—	10·4	—	9·8	—	9·4	—	6·6	—	9·7	—	16·1	—	15·8	—	13·1	—	14·7	—	11·2	—	14·2	—	—	—	12·0
	1873	—	13·7	—	11·8	—	7·2	—	6·4	—	6·8	—	7·3	—	7·9	—	15·7	—	11·8	—	14·0	—	14·2	—	11·8	—	13·5	—	—	—	10·7
	1874	—	15·5	—	11·6	—	5·8	—	5·1	—	7·1	—	6·3	—	7·2	—	13·4	—	12·6	—	13·8	—	11·8	—	10·1	—	12·3	—	—	—	9·8
	1875	—	11·2	—	8·9	—	9·1	—	8·6	—	11·5	—	9·4	—	9·5	—	11·2	—	12·7	—	15·3	—	9·2	—	10·6	—	11·8	—	—	—	10·7
	Means for 10 years, 1866–75	—	11·8	—	9·7	—	7·4	—	6·8	—	8·3	—	7·6	—	8·0	—	12·1	—	11·4	—	12·1	—	11·0	—	9·7	—	11·3	—	—	—	9·7
	1876	—	8·9	—	7·4	—	8·0	—	8·1	—	9·0	—	7·9	—	8·1	—	10·3	—	11·2	—	13·8	—	10·0	—	9·6	—	11·0	—	—	—	9·6
	1877	—	10·8	—	11·3	—	10·1	—	8·1	—	10·4	—	7·6	—	9·5	—	12·6	—	15·4	—	14·5	—	12·0	—	10·4	—	13·0	—	—	—	11·3
	1878	51	8·0	47	8·0	46	8·4	48	6·9	43	9·1	40	7·5	44	8·0	47	10·5	48	10·8	44	9·2	55	8·1	51	10·5	48	9·8	52	8·5	46	8·9
	1879	59	9·8	55	9·9	53	9·0	61	12·1	54	10·8	56	11·2	55	10·6	64	15·8	62	13·9	61	12·9	68	15·5	64	12·4	64	14·1	63	10·3	60	12·4
	1880	40	7·5	46	7·7	45	10·5	46	10·0	44	11·2	43	9·4	46	9·8	46	9·4	46	10·0	47	7·7	54	9·8	49	10·8	48	9·5	55	8·0	47	9·7
	1881	49	6·5	50	9·1	51	10·3	51	8·5	47	8·3	47	8·2	49	8·9	55	10·4	50	11·0	49	9·4	63	8·6	55	10·3	54	9·9	51	7·8	52	9·4
	1882	60	8·2	57	8·0	56	6·9	48	7·0	55	8·1	49	7·2	53	7·4	57	12·3	55	11·5	57	13·2	65	11·5	59	11·9	59	8·1	56	9·7
	1883	59	8·5	57	10·1	51	8·3	52	8·1	50	8·9	49	6·7	52	8·4	54	12·2	51	9·8	58	10·1	61	11·4	57	12·8	56	11·3	62	9·5	54	9·9
	1884	53	7·8	48	6·3	35	5·3	38	7·4	40	6·2	44	5·9	41	6·2	55	12·3	48	9·0	52	8·6	59	10·2	48	7·1	52	9·4	52	7·1	47	7·8
	1885	59	8·1	45	6·0	36	5·7	36	6·2	35	5·9	33	5·1	37	5·8	46	11·6	43	7·8	42	8·8	51	9·9	46	9·9	46	9·6	45	5·7	42	7·7
	Means for 10 years, 1876–85	—	8·4	—	8·4	—	8·3	—	8·2	—	8·8	—	7·7	—	8·3	—	11·7	—	11·2	—	10·8	—	10·7	—	10·5	—	10·9	—	—	—	9·6
	1886	59	8·7	43	5·0	41	6·8	38	6·5	39	6·4	35	5·8	39	6·1	48	11·4	42	10·3	40	9·3	54	9·3	53	10·9	47	10·2	48	7·2	43	8·2
	1887	63	10·3	53	7·6	44	6·1	42	5·4	35	5·2	35	5·8	42	6·0	49	10·8	43	7·1	37	7·3	55	10·5	46	7·9	46	8·7	40	6·2	44	7·4
	1888	55	9·3	52	7·1	49	9·2	53	8·4	48	7·9	46	7·9	50	8·1	53	10·6	50	10·5	53	11·0	54	10·3	44	9·3	51	10·3	51	8·6	51	9·2
	1889	58	11·0	51	8·8	48	7·7	48	9·1	44	7·8	41	6·6	46	8·0	51	10·8	48	10·2	50	9·1	60	11·9	50	9·8	52	10·4	47	6·0	49	9·2
	1890	65	12·1	54	8·4	48	8·3	44	7·2	47	6·6	44	8·6	47	7·8	54	12·0	53	9·2	52	9·8	65	10·2	55	8·4	56	9·9	44	8·1	52	8·9
	Means for 25 years, 1866–90	—	10·2	—	8·7	—	7·8	—	7·5	—	8·2	—	7·5	—	7·9	—	11·7	—	10·8	—	11·0	—	10·7	—	9·9	—	10·8	—	—	—	9·4
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866	53°2		55°4		55°4		57°6		56°8		58°1		56°7		56°2		56°8		58°4		56°0		57°2		56°9		°		56°8	
	1867	53°7		56°0		55°9		58°8		58°5		59°2		57°7		57°2		58°2		60°0		58°5		59°4		58°7		—		58°2	
	1868	55°0		58°5		58°8		62°5		62°4		62°4		60°9		59°5		61°2		63°6		59°1		60°8		60°8		—		60°9	
	1869	54°4		57°4		57°6		60°2		60°5		60°3		59°2		58°2		59°1		61°4		59°5		59°8		59°6		—		59°4	
	1870	55°6		58°1		57°2		59°6		60°5		60°3		59°1		58°5		59°5		61°7		59°6		60°3		59°9		—		59°5	
	1871	55°1		57°4		57°5		59°9		59°5		60°1		58°9		57°3		58°3		60°6		57°2		58°0		58°3		—		58°6	
	1872	54°0		55°9		57°1		59°7		60°1		60°3		58°6		57°7		59°1		60°7		57°9		59°3		58°9		—		58°8	
	1873	54°1		56°4		57°3		59°1		58°7		59°4		58°2		57°4		57°8		59°5		56°6		57°9		57°8		—		58°0	
	1874	54°4		56°7		57°9		60°2		60°3		60°2		59°1		57°8		58°8		60°6		56°9		59°0		58°6		—		58°9	
	1875	54°8		57°0		57°8		59°7		59°6		60°2		58°9		58°4		58°7		60°6		57°5		60°0		59°0		—		59°0	
	Means for 10 years, 1866–75	54°4		56°9		57°3		59°7		59°7		60°1		58°7		57°8		58°8		60°7		57°9		59°2		58°9		—		58°8	
	1876	54°3		56°3		57°7		60°4		60°7		61°1		59°2		57°6		58°8		61°0		56°6		59°4		58°7		—		59°0	
	1877	52°7		55°0		55°5		57°9		57°7		58°2		56°9		55°3		56°0		58°3		55°1		57°3		56°4		—		56°7	
	1878	55°2		58°5		59°1		60°4		60°2		61°6		60°0		59°2		59°5		61°3		58°8		60°7		59°9		62°1		60°0	
	1879	52°4		54°2		56°2		58°1		57°8		58°7		57°0		55°2		56°2		57°5		54°8		57°5		56°2		58°5		56°6	
	1880	55°9		57°8		59°5		61°1		60°1		62°1		60°1		58°6		59°8		61°3		58°8		60°1		59°7		61°5		59°9	
	1881	52°1		56°8		56°8		58°6		57°7		59°4		57°9		54°8		56°4		57°5		55°8		56°4		56°2		59°8		57°1	
	1882	54°2		56°6		57°7		58°2		57°1		58°8		57°7		56°0		56°8		57°4		55°9		56°2		56°5		58°9		57°1	
	1883	52°9		55°8		56°9		58°5		57°7		59°5		57°7		55°9		57°2		57°5		55°8		56°9		56°7		59°1		57°2	
	1884	54°5		57°5		59°1		61°8		60°7		62°4		60°3		58°2		59°6		60°5		57°9		59°0		59°0		61°7		59°7	
	1885	51°7		55°0		56°2		58°0		57°7		59°6		57°3		54°8		56°2		57°7		55°7		57°3		56°3		59°6		56°8	
	Means for 10 years, 1876–85	53°6		56°4		57°5		59°3		58°7		60°1		58°4		56°6		57°7		59°0		56°5		58°1		57°6		—		58°0	
	1886	52°4		56°1		58°1		60°2		59°7		61°3		59°1		55°8		57°7		59°4		56°5		58°2		57°5		61°0		58°3	
	1887	52°9		55°8		57°1		59°1		58°2		59°7		58°0		55°6		57°5		58°7		56°5		58°4		57°3		61°2		57°7	
	1888	51°7		53°2		54°4		57°1		55°8		58°0		55°7		54°2		55°4		56°7		55°0		56°2		55°5		58°9		55°6	
	1889	53°2		54°7		56°4		58°1		57°5		59°4		57°2		55°5		56°9		58°0		56°1		57°5		56°8		60°3		57°0	
	1890	53°8		55°7		57°7		58°8		58°1		59°8		58°0		56°1		57°5		58°1		56°5		57°6		57°2		59°2		57°6	
	Means for 25 years, 1866–90	53°8		56°3		57°2		59°3		58°9		60°0		58°3		56°8		58°0		59°5		57°0		58°4		57°9		—		58°1	

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FIVE YEARS, 1866 TO 1890.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 4·9 in 1870	Ins. 6·4 in 1870	Ins. 5·7 in 1870
	Wettest	10·6 in 1879	14·2 in 1872	12·4 in 1879
Temperature	Coldest	°55·7 in 1888	°55·5 in 1888	°55·6 in 1888
	Warmest	60·9 in 1868	60·8 in 1868	60·9 in 1868

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE THIRD QUARTER, 1890.

YEAR AND MONTHS.	0. Scotland, N.		Principal Wheat-producing Districts.										Means for Wheat Producing Districts.		Principal Grazing, &c. Districts.										Means for the &c. Grazing, Districts.		Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.				6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.							
	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																														
July - -	21	146	18	124	16	105	18	112	17	103	17	105	17	109	16	126	18	119	18	122	21	137	18	134	18	128	17	126	18	120
August -	20	166	18	142	15	120	13	125	16	119	14	119	15	124	18	144	17	136	18	140	20	157	18	152	18	146	13	139	17	137
September -	24	190	18	160	17	137	13	138	14	133	13	132	15	139	20	164	18	154	16	156	24	181	19	171	19	165	14	153	17	154
RAINFALL.—AMOUNTS IN INCHES.																														
July - -	3·64	27·29	2·92	16·65	2·42	12·28	4·19	14·26	2·55	12·28	4·19	16·08	3·26	14·31	3·64	27·38	2·86	17·28	3·64	20·62	2·53	17·53	2·63	23·87	3·07	21·33	4·48	20·56	3·17	17·85
August -	4·55	31·84	3·00	19·65	3·80	16·08	1·75	16·01	2·53	14·81	2·35	18·43	2·69	17·00	3·96	31·34	3·54	20·82	3·85	24·47	3·42	20·95	2·67	26·54	3·49	24·82	1·88	22·44	3·09	20·94
September -	3·92	35·76	2·46	22·11	2·06	18·14	1·29	17·30	1·54	16·35	2·06	20·49	1·88	18·88	4·42	35·76	2·84	23·66	2·29	26·76	4·23	25·18	3·05	29·59	3·37	28·19	1·72	24·16	2·63	23·57
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																														
July - -	261	1022	328	1240	390	1342	432	1554	414	1551	457	1684	404	1475	358	1350	397	1444	411	1609	366	1418	407	1649	388	1494	439	1810	396	1486
August -	354	1376	408	1648	479	1821	515	2069	492	2043	542	2226	487	1962	422	1772	464	1908	487	2096	422	1840	454	2103	450	1944	522	2332	469	1955
September -	430	1806	471	2119	522	2343	535	2604	511	2554	573	2802	523	2485	469	2241	521	2429	534	2630	491	2331	524	2627	508	2452	579	2911	516	2471
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																														
July - -	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
August -	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
September -	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																														
July - -	96	687	137	815	131	747	155	962	143	837	131	886	140	849	162	863	140	802	127	916	133	840	128	873	138	858	137	1064	139	854
August -	100	787	118	933	136	883	152	1114	136	973	160	1046	140	989	134	997	132	934	163	1084	116	956	148	1021	140	998	237	1301	140	994
September -	133	920	167	1100	187	1070	226	1340	194	1167	219	1265	199	1188	157	1154	162	1096	204	1288	129	1085	157	1178	162	1160	256	1557	181	1175
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																														
July - -	21	25	29	29	29	27	35	35	32	31	30	33	31	31	35	31	30	29	29	34	29	31	28	33	30	32	31	40	31	32
August -	23	25	27	30	32	28	37	36	33	31	39	33	34	32	32	32	32	30	42	34	28	30	36	32	34	32	58	42	34	32
September -	29	25	36	30	42	29	51	37	43	32	49	35	44	33	55	32	36	30	45	36	28	30	34	33	36	32	57	43	40	33

1890.

EXPLANATION OF TABLES.

TABLES I. and IA. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-89. The whole of the values for 1878-90, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *July* are those for the twenty-seventh to thirtieth weeks in the year; those for *August* are for the thirty-first to the thirty-fourth weeks; those for *September* are for the thirty-fifth to the thirty-ninth weeks.

The figures given in the columns headed "From Dec. 29" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

QUARTERLY SUMMARY OF THE WEEKLY WEATHER REPORT, 1890.

VOL. VII. APPENDIX I.] FOURTH QUARTER—OCTOBER TO DECEMBER. [*Price 4d.*
New Series.

TABLE I.—SUMMARY OF RAINFALL AND MEAN TEMPERATURE, FOR THE FOURTH QUARTER OF THE TWENTY-FIVE YEARS, 1866 TO 1890.

	YEARS.	**Principal Wheat-producing Districts.**												**Principal Grazing, &c. Districts.**										Channel Islands.		Means for the British Islands generally.	
		0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for the Grazing, &c. Districts.			
		Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.
RAINFALL (in Inches).	1866	—	20·6	—	9·0	—	6·0	—	5·9	—	6·7	—	6·3	—	6·8	—	14·4	—	15·3	—	12·4	—	11·9	—	9·2	—	12·6	—	—	—	9·7
	1867	—	16·8	—	5·7	—	4·8	—	5·7	—	5·5	—	5·8	—	5·5	—	10·4	—	10·3	—	12·1	—	9·6	—	7·5	—	10·0	—	—	—	7·8
	1868	—	19·0	—	10·3	—	9·5	—	7·9	—	9·7	—	11·4	—	9·8	—	15·1	—	18·5	—	18·3	—	14·0	—	14·3	—	16·0	—	—	—	12·9
	1869	—	19·8	—	9·8	—	7·9	—	9·1	—	7·7	—	8·5	—	8·6	—	14·0	—	13·6	—	14·3	—	13·1	—	9·5	—	12·9	—	—	—	10·8
	1870	—	16·0	—	9·3	—	10·5	—	8·4	—	8·6	—	9·5	—	9·3	—	10·6	—	16·0	—	15·9	—	14·6	—	12·2	—	13·9	—	—	—	11·6
	1871	—	15·1	—	7·3	—	5·4	—	4·3	—	4·2	—	4·6	—	5·2	—	10·7	—	10·7	—	12·4	—	7·6	—	9·4	—	10·2	—	—	—	7·7
	1872	—	18·0	—	15·0	—	11·6	—	10·6	—	12·0	—	16·5	—	13·1	—	16·3	—	17·4	—	25·1	—	16·8	—	17·6	—	18·6	—	—	—	15·9
	1873	—	21·2	—	9·6	—	3·5	—	4·6	—	4·6	—	6·5	—	5·8	—	11·7	—	10·6	—	9·4	—	7·9	—	7·7	—	9·5	—	—	—	7·7
	1874	—	17·8	—	9·2	—	8·0	—	7·0	—	7·4	—	10·6	—	8·4	—	14·4	—	15·0	—	16·0	—	13·0	—	12·7	—	14·2	—	—	—	11·3
	1875	—	13·7	—	11·1	—	10·1	—	9·6	—	11·4	—	11·2	—	10·7	—	12·5	—	12·7	—	18·5	—	10·1	—	13·1	—	13·4	—	—	—	12·1
	Means for 10 years, 1866–75	—	17·8	—	9·6	—	7·7	—	7·3	—	7·8	—	9·1	—	8·3	—	13·0	—	14·0	—	15·4	—	11·9	—	11·3	—	13·1	—	—	—	10·7
	1876	—	13·7	—	13·2	—	10·5	—	7·5	—	11·7	—	13·4	—	11·3	—	16·0	—	14·1	—	19·1	—	14·4	—	17·6	—	16·2	—	—	—	13·8
	1877	—	23·1	—	11·3	—	6·4	—	6·4	—	7·4	—	10·6	—	8·4	—	18·1	—	17·8	—	17·2	—	14·3	—	14·0	—	16·3	—	—	—	12·4
	1878	72	11·1	53	8·1	60	10·4	57	9·6	51	7·8	48	8·3	54	8·8	45	11·0	55	9·1	64	13·3	65	11·7	53	8·1	56	10·6	74	15·4	55	9·7
	1879	58	8·6	41	4·8	38	3·6	44	3·3	33	2·8	32	2·5	38	3·4	37	6·5	35	5·2	31	4·3	42	4·9	37	4·2	36	5·0	38	4·2	37	4·2
	1880	75	12·6	54	8·2	56	9·8	58	9·4	49	11·0	51	12·9	54	10·3	57	12·2	53	13·6	58	16·4	60	9·6	53	12·4	56	12·8	69	18·2	55	11·6
	1881	64	11·2	58	7·2	54	7·2	60	8·5	51	8·6	52	9·5	55	8·2	56	15·8	54	11·9	59	14·2	65	12·1	62	13·4	59	13·5	65	12·6	57	10·9
	1882	71	11·9	67	11·4	72	11·2	69	11·7	71	13·0	67	12·6	69	12·0	63	16·9	67	13·2	74	19·8	65	12·5	68	14·8	67	15·4	83	19·0	68	13·7
	1883	75	14·8	48	5·8	53	5·8	60	7·6	52	7·4	49	7·2	52	6·8	66	18·4	57	11·3	62	11·8	71	12·2	60	11·1	63	13·0	63	10·3	58	9·9
	1884	68	14·6	52	6·9	44	5·1	50	6·9	47	5·3	42	6·0	47	6·0	52	16·1	51	8·7	57	10·2	64	13·2	54	9·8	56	11·6	62	8·7	52	8·8
	1885	63	11·0	45	4·6	51	7·0	55	9·2	52	8·6	50	9·0	51	7·7	52	11·8	50	9·8	59	12·7	54	8·9	59	10·1	55	10·7	62	11·3	53	9·2
	Means for 10 years, 1876–85	—	13·3	—	8·2	—	7·7	—	8·0	—	8·4	—	9·2	—	8·3	—	14·3	—	11·5	—	13·9	—	11·4	—	11·6	—	12·5	—	—	—	10·4
	1886	75	14·3	60	7·8	56	10·0	58	9·5	64	10·9	67	14·4	61	10·5	65	16·8	69	14·3	75	19·1	71	15·5	69	16·0	70	16·3	85	16·3	66	13·4
	1887	73	13·0	55	7·8	59	7·7	56	6·3	47	5·9	50	7·8	53	7·1	51	12·4	55	8·1	55	12·0	57	10·0	47	9·7	53	10·4	64	11·9	53	8·8
	1888	69	15·9	57	9·3	46	5·7	42	5·6	43	8·4	50	8·6	48	7·5	57	16·8	56	10·1	61	14·0	66	10·4	63	13·8	61	13·0	66	10·2	55	10·3
	1889	65	12·3	52	6·6	49	6·6	51	6·0	47	5·3	46	8·2	49	6·5	58	13·3	58	9·4	59	11·8	61	10·8	59	11·6	58	11·4	66	12·2	54	9·0
	1890	74	19·3	62	10·8	56	6·7	46	5·4	49	5·6	48	4·9	52	6·7	60	17·1	56	11·4	62	11·3	65	13·6	58	11·8	60	13·0	63	8·9	56	9·9
	Means for 25 years, 1866–90	—	15·4	—	8·8	—	7·6	—	7·4	—	7·9	—	9·1	—	8·2	—	14·0	—	13·3	—	14·5	—	11·7	—	11·7	—	12·8	—	—	—	10·5
MEAN TEMPERATURE (in Degrees Fahrenheit).	1866	43°6		44°2		45°1		46°1		45°7		46°8		45°6		46°0		46°2		50°3		45°4		46°9		47°0		°		46°3	
	1867	43·9		42·9		42·3		43·0		42·6		43·2		42·8		45·4		42·9		45·8		44·2		44·9		44·2		—		43·5	
	1868	42·0		42·0		43·1		44·8		44·3		45·5		43·9		43·6		44·2		48·1		44·0		45·5		45·1		—		44·5	
	1869	40·9		41·5		41·8		42·7		42·9		43·7		42·5		42·5		43·9		46·6		44·7		45·5		44·6		—		43·6	
	1870	40·3		40·0		40·3		41·6		41·3		41·9		41·0		40·5		41·6		44·4		41·5		43·2		42·2		—		41·6	
	1871	42·2		42·1		42·3		41·5		41·7		41·8		41·9		42·4		43·0		45·3		43·2		44·7		43·7		—		42·8	
	1872	42·4		42·0		43·3		44·4		44·2		45·4		43·9		43·6		44·4		47·3		42·8		44·1		44·4		—		44·2	
	1873	43·4		42·9		44·2		43·9		43·6		44·5		43·8		44·2		44·7		46·9		44·3		46·3		45·3		—		44·6	
	1874	41·4		39·9		40·8		41·8		41·7		43·0		41·4		40·5		42·3		46·0		42·8		45·7		43·5		—		42·5	
	1875	42·7		42·1		43·0		42·7		43·0		43·5		42·9		42·8		43·6		45·9		43·5		46·0		44·4		—		43·7	
	Means for 10 years, 1866–75	42·3		42·0		42·6		43·3		43·1		43·9		43·0		43·0		43·7		46·7		43·6		45·3		44·4		—		43·7	
	1876	44·0		43·4		45·2		46·2		44·8		47·2		45·4		44·6		46·1		49·0		45·7		48·1		46·7		—		46·1	
	1877	42·9		43·3		43·6		44·4		44·1		44·8		44·0		44·5		45·3		49·2		44·4		47·4		46·2		—		45·1	
	1878	40·5		39·7		39·8		40·8		40·7		42·3		40·7		40·9		41·5		44·5		42·1		42·8		42·4		47·4		41·6	
	1879	41·8		41·0		40·3		39·7		39·8		41·2		40·4		42·2		42·0		45·3		43·0		45·0		43·5		46·9		42·0	
	1880	39·1		40·4		42·4		43·6		42·7		45·3		42·9		42·2		43·6		47·7		42·9		44·9		44·3		49·7		43·6	
	1881	43·2		43·0		43·2		43·5		43·2		45·2		43·6		44·3		44·5		47·7		44·3		46·8		45·5		49·3		44·6	
	1882	41·3		40·1		43·6		43·5		42·8		45·5		42·9		42·2		44·0		46·5		42·8		44·6		44·0		49·3		43·5	
	1883	42·4		43·0		43·8		44·2		43·8		45·6		44·1		44·3		45·0		46·9		44·6		46·5		45·5		49·5		44·8	
	1884	44·4		42·6		43·8		43·6		43·3		45·3		43·7		43·8		44·4		46·2		44·1		45·1		44·7		49·3		44·2	
	1885	41·5		41·5		42·6		42·3		41·9		44·0		42·5		42·9		42·7		45·0		43·7		45·1		43·9		48·3		43·2	
	Means for 10 years, 1876–85	42·1		41·8		42·7		43·2		42·7		44·6		43·0		43·2		43·9		46·8		43·8		45·6		44·7		—		43·9	
	1886	42·6		42·5		43·6		43·9		43·5		45·6		43·8		44·4		44·7		46·3		44·2		45·8		45·1		49·8		44·5	
	1887	39·2		39·4		40·3		40·2		39·9		41·7		40·3		40·7		41·3		42·7		41·8		42·8		41·9		46·5		41·1	
	1888	43·2		43·4		44·1		43·9		43·8		46·1		44·3		45·1		45·3		47·1		45·5		47·0		46·0		50·6		45·2	
	1889	43·1		42·2		43·1		43·0		42·7		44·9		43·2		44·4		44·1		45·8		45·0		46·2		45·1		49·1		44·2	
	1890	42·3		41·5		42·1		40·5		40·4		42·2		41·3		43·3		42·6		44·0		44·3		45·6		44·0		47·5		42·7	
	Means for 25 years, 1866–90	42·2		41·9		42 7		43·0		42·7		44·2		42·9		43·2		43·8		46·4		43·8		45·5		44·5		—		43·7	

TABLE Ia.—SHOWING THE DATES OF THE DRIEST AND WETTEST, AND OF THE COLDEST AND WARMEST CORRESPONDING QUARTERS FOR THE TWENTY-FIVE YEARS, 1866 TO 1890.

		Wheat Districts.	Grazing, &c. Districts.	Generally.
Rainfall	Driest	Ins. 3·4 in 1879	Ins. 5·0 in 1879	Ins. 4·2 in 1879
	Wettest	13·1 in 1872	18·6 in 1872	15·9 in 1872
Temperature	Coldest	40°3 in 1887	41°9 in 1887	41°1 in 1887
	Warmest	45·6 in 1866	47·0 in 1866	46·3 in 1866

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TABLE II.—SHOWING THE RAINFALL, ACCUMULATED TEMPERATURE, AND BRIGHT SUNSHINE FOR EACH MONTH, AND THE PROGRESSIVE VALUES FROM THE COMMENCEMENT OF THE YEAR, FOR THE FOURTH QUARTER, 1890.

YEAR AND MONTHS.	0. Scotland, N.		Principal Wheat-producing Districts.										Means for Wheat producing Districts.		Principal Grazing, &c. Districts.										Means for the &c. Districts.		Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.				6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.							
	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.	For the Month.	From Dec. 29.
RAINFALL.—NUMBERS OF DAYS WITH RAIN.																														
October -	25	215	17	177	12	149	9	147	11	144	10	142	12	151	18	182	15	169	15	171	17	198	12	183	15	180	11	164	14	168
November -	32	247	25	202	26	175	26	173	25	169	26	168	26	177	28	210	28	197	31	202	31	229	29	212	29	209	33	197	28	196
December -	17	264	20	222	18	193	11	184	13	182	12	180	15	192	14	224	13	210	16	218	17	246	17	229	15	224	19	216	15	211
RAINFALL.—AMOUNTS IN INCHES.																														
October -	8·99	44·75	3·09	25·20	1·33	19·47	0·95	18·25	1·29	17·64	0·98	21·47	1·53	20·41	4·77	40·53	3·34	27·00	1·99	28·75	3·36	28·54	2·00	31·59	3·09	31·28	0·99	25·15	2·31	25·88
November -	8·62	53·37	6·01	31·21	3·91	23·38	3·84	22·09	3·49	21·13	2·67	24·14	3·98	24·39	9·88	50·41	6·79	33·79	5·81	34·56	7·83	36·37	6·05	37·64	7·27	38·55	5·40	30·55	5·63	31·51
December -	1·71	55·08	1·67	32·85	1·46	24·84	0·57	22·66	0·86	21·99	1·28	25·42	1·17	25·56	2·41	52·82	1·30	35·09	3·53	38·09	2·36	38·73	3·75	41·41	2·67	41·22	2·55	33·10	1·92	33·43
ACCUMULATED HEAT.—DAY DEGREES ABOVE 42° F.																														
October -	192	1998	226	2345	270	2613	286	2890	263	2817	303	3105	270	2755	255	2496	279	2708	301	2931	279	2610	325	2952	288	2739	366	3277	279	2750
November -	84	2082	85	2430	114	2727	123	3013	137	2954	180	3285	128	2883	125	2621	137	2845	181	3112	140	2750	189	3141	154	2893	269	3546	141	2891
December -	10	2092	8	2438	2	2729	0	3013	0	2954	0	3285	2	2885	17	2638	5	2850	4	3116	20	2770	32	3173	16	2909	21	3567	9	2900
ACCUMULATED HEAT.—DAY DEGREES BELOW 42° F.																														
October -	0	438	0	485	0	389	9	477	8	486	3	308	4	428	0	325	0	302	0	245	0	294	0	224	0	279	0	71	2	356
November -	104	542	153	638	99	488	114	591	117	603	78	386	112	540	69	394	57	359	45	290	54	348	48	272	55	334	23	94	84	440
December -	167	709	246	884	277	765	428	1019	426	1029	372	758	350	890	184	578	295	654	240	530	153	500	153	425	205	539	123	217	278	718
BRIGHT SUNSHINE.—NUMBERS OF HOURS.																														
October -	45	965	83	1183	85	1155	126	1466	110	1277	116	1381	104	1292	73	1227	71	1167	120	1408	62	1147	89	1267	83	1243	114	1671	94	1269
November -	47	1012	61	1244	80	1235	82	1548	80	1357	77	1458	76	1368	65	1292	71	1238	93	1501	73	1220	90	1357	78	1321	83	1754	77	1346
December -	31	1043	15	1259	12	1247	20	1568	8	1365	33	1491	18	1386	10	1302	16	1254	27	1528	44	1264	44	1401	28	1349	88	1842	23	1369
BRIGHT SUNSHINE.—PERCENTAGES OF POSSIBLE DURATION.																														
October -	15	25	28	30	28	30	42	38	36	33	37	36	34	33	24	32	23	30	39	36	21	30	30	33	28	32	37	44	31	33
November -	16	24	21	30	26	30	26	38	25	33	24	36	24	33	22	31	24	30	30	36	25	29	29	32	26	32	26	43	25	33
December -	14	24	7	29	4	29	8	36	3	31	13	34	7	32	4	30	7	29	10	35	18	29	17	32	11	31	31	42	9	32

1890.

EXPLANATION OF TABLES.

TABLES I. and Ia. are merely in continuation of the Tables given in the Quarterly Summaries of the Weekly Weather Reports, 1884-89. The whole of the values for 1878-90, however, have been corrected by information received since they were first published.

TABLE II. In this Table the monthly values for *October* are those for the fortieth to forty-third weeks in the year; those for *November* are for the forty-fourth to the forty-eighth weeks; those for *December* are for the forty-ninth to the fifty-third weeks.

The figures given in the columns headed "From Dec. 29" are the values for the whole period elapsed since the beginning of the first week of the year.

In the "Means for the Wheat Districts" the values for District 0, and in the "Means for the "Grazing, &c. Districts" the values for the "Channel Islands," are not included.

The Means for the British Islands generally are those for the Wheat Districts and Grazing Districts combined.

WEEKLY WEATHER REPORT, 1890.

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TABLE I.—SHOWING THE WEEKLY AND PROGRESSIVE NUMBERS OF RAINY DAYS IN EACH DISTRICT, DURING THE YEAR 1890.

DATE. — LIMITS OF WEEKS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.
1890.	Numbers of Days with Rain.																													
Dec.29/89-Jan. 4	5	5	3	3	3	3	3	3	3	3	2	2	3	3	5	5	4	4	3	3	5	5	5	5	4	4	4	4	4	4
Jan. 5-11	7	12	7	10	4	7	5	8	6	9	5	7	5	8	7	12	7	11	7	10	7	12	6	11	7	11	7	11	6	10
12-18	6	18	5	15	3	10	3	11	4	13	4	11	4	12	7	19	6	17	6	16	7	19	6	17	7	18	6	17	5	15
19-25	6	24	5	20	5	15	6	17	6	19	6	17	6	18	6	25	6	23	7	23	6	25	6	23	6	24	7	24	6	21
Jan. 26-Feb. 1	6	30	4	24	5	20	6	23	4	23	6	23	5	23	6	31	7	30	5	28	5	30	5	28	6	30	5	29	6	27
Feb. 2-8	3	33	1	25	2	22	3	26	1	24	1	24	1	24	1	32	1	31	1	29	2	32	2	30	1	31	3	32	1	28
9-15	2	35	2	27	2	24	3	29	3	27	3	27	3	27	1	33	1	32	2	31	2	34	4	34	2	33	4	36	2	30
16-22	4	39	4	31	2	26	1	30	2	29	2	29	2	29	4	37	3	35	4	35	5	39	5	39	4	37	3	39	3	33
Feb. 23-Mar. 1	5	44	4	35	6	32	5	35	3	32	2	31	4	33	1	38	2	37	1	36	2	41	1	40	1	38	1	40	3	36
Mar. 2-8	6	50	4	39	4	36	5	40	3	35	3	34	4	37	5	43	5	42	4	40	5	46	4	44	5	43	5	45	5	41
9-15	6	56	5	44	2	38	3	43	3	38	3	37	3	40	6	49	4	46	3	43	6	52	4	48	5	48	2	47	4	45
16-22	6	62	5	49	5	43	5	48	4	42	5	42	5	45	5	54	4	50	5	48	4	56	4	52	4	52	3	50	4	49
23-29	5	67	5	54	5	48	4	52	4	46	4	46	4	49	6	60	6	56	5	53	6	62	6	58	6	58	4	54	5	54
Mar. 30-April 5	3	70	1	55	0	48	0	52	0	46	0	46	0	49	1	61	1	57	1	54	1	63	1	59	1	59	1	55	1	55
April 6-12	5	75	4	59	5	53	6	58	5	51	5	51	5	54	3	64	4	61	5	59	5	68	4	63	4	63	5	60	4	59
13-19	1	76	4	63	3	56	3	61	3	54	5	56	4	58	2	66	2	63	4	63	2	70	4	67	3	66	6	66	3	62
20-26	7	83	6	69	4	60	5	66	5	59	6	62	5	63	6	72	5	68	6	69	6	76	6	73	6	72	6	72	6	68
April 27-May 3	4	87	2	71	1	61	1	67	2	61	1	63	1	64	2	74	2	70	3	72	4	80	5	78	3	75	3	75	2	70
May 4-10	3	90	4	75	5	66	5	72	5	66	5	68	5	69	4	78	4	74	5	77	4	84	6	84	5	80	5	80	5	75
11-17	6	96	6	81	4	70	3	75	4	70	3	71	4	73	7	85	6	80	4	81	6	90	6	90	6	86	5	85	5	80
18-24	1	97	2	83	2	72	1	76	1	71	2	73	2	75	3	88	3	83	3	84	3	93	4	94	3	89	5	90	3	83
May 25-31	5	102	3	86	2	74	2	78	1	72	1	74	2	77	2	90	1	84	2	86	2	95	3	97	2	91	3	93	2	85
June 1-7	6	108	5	91	3	77	4	82	2	74	3	77	3	80	5	95	4	88	5	91	6	101	5	102	5	96	4	97	4	89
8-14	4	112	4	95	4	81	4	86	4	78	4	81	4	84	4	99	3	91	4	95	4	105	4	106	4	100	4	101	4	93
15-21	7	119	6	101	3	84	4	90	3	81	3	84	4	88	6	105	4	95	4	99	6	111	5	111	5	105	2	103	5	98
22-28	6	125	5	106	5	89	4	94	5	86	4	88	5	93	5	110	6	101	5	104	5	116	5	116	5	110	6	109	5	103
June 29-July 5	4	129	5	111	6	95	6	100	5	91	6	94	5	98	4	114	5	106	5	109	6	122	5	121	5	115	6	115	5	108
July 6-12	6	135	5	116	4	99	6	106	6	97	5	99	5	103	4	118	4	110	5	114	5	127	5	126	4	119	5	120	5	113
13-19	5	140	5	121	3	102	4	110	3	100	4	103	4	107	3	121	4	114	5	119	4	131	4	130	4	123	4	124	4	117
20-26	6	146	3	124	3	105	2	112	3	103	2	105	3	110	5	126	5	119	3	122	6	137	4	134	5	128	2	126	4	121
July 27-Aug. 2	6	152	5	129	3	108	3	115	4	107	3	108	3	113	5	131	4	123	5	127	6	143	5	139	5	133	3	129	4	125
Aug. 3-9	3	155	2	131	2	110	1	116	2	109	1	109	2	115	2	133	2	125	2	129	2	145	2	141	2	135	1	130	2	127
10-16	5	160	6	137	6	116	5	121	6	115	5	114	6	121	6	139	6	131	6	135	6	151	6	147	6	141	4	134	6	133
17-23	6	166	5	142	4	120	4	125	4	119	5	119	4	125	5	144	5	136	5	140	6	157	5	152	5	146	5	139	5	138
Aug. 24-30	6	172	6	148	5	125	5	130	5	124	5	124	5	130	5	149	6	142	5	145	5	162	5	157	5	151	6	145	5	143
31-Sept. 6	4	176	3	151	4	129	2	132	2	126	1	125	2	132	5	154	5	147	3	148	6	168	4	161	5	156	1	146	4	147
Sept. 7-13	4	180	1	152	0	129	0	132	0	126	0	125	0	132	1	155	0	147	0	148	1	169	0	161	0	156	0	146	0	147
14-20	4	184	3	155	4	133	4	136	3	129	4	129	4	136	3	158	3	150	4	152	5	174	6	161	4	160	4	150	4	151
21-27	6	190	5	160	4	137	2	138	4	133	3	132	4	140	6	164	4	154	4	156	7	181	4	171	5	165	3	153	4	155
Sept. 28-Oct. 4	7	197	5	165	3	140	1	139	2	135	2	134	3	143	6	170	5	159	5	161	5	186	3	174	5	170	2	155	4	159
Oct. 5-11	6	203	3	168	2	142	1	140	2	137	2	136	2	145	3	173	3	162	3	164	3	189	2	176	3	173	2	157	2	161
12-18	6	209	4	172	3	145	3	143	3	140	2	138	3	148	4	177	3	165	4	168	5	194	4	180	4	177	4	161	4	165
19-25	6	215	5	177	4	149	4	147	4	144	4	142	4	152	5	182	4	169	3	171	4	198	3	183	3	180	3	164	4	169
Oct. 26-Nov. 1	7	222	6	183	5	154	5	152	5	149	6	148	6	158	6	188	6	175	7	178	7	205	6	189	6	186	7	171	6	175
Nov. 2-8	7	229	5	188	6	160	6	158	6	155	6	154	6	164	6	194	6	181	7	185	7	212	7	196	7	193	7	178	7	182
9-15	6	235	5	193	5	165	5	163	5	160	5	159	5	169	6	200	6	187	7	192	6	218	6	202	6	199	7	185	5	187
16-22	7	242	5	198	4	169	4	167	4	164	5	164	4	173	7	207	7	194	7	199	7	225	6	208	7	206	6	191	6	193
23-29	5	247	4	202	6	175	6	173	5	169	4	168	5	178	3	210	3	197	3	202	4	229	4	212	3	209	6	197	4	197
Nov. 30-Dec. 6	4	251	6	208	6	181	2	175	4	173	2	170	4	182	4	214	4	201	5	207	5	234	5	217	5	214	6	203	5	202
Dec. 7-13	3	254	3	211	1	182	1	176	1	174	1	171	1	183	1	215	0	201	1	208	3	237	2	219	1	215	2	205	1	203
14-20	3	257	3	214	3	185	4	180	3	177	4	175	3	186	3	218	3	204	4	212	3	240	3	222	3	218	4	209	3	206
21-27	4	261	4	218	5	190	2	182	3	180	2	177	3	189	4	222	4	208	4	216	3	243	4	226	4	222	3	212	3	209
Dec.28-Jan. 3, 1891	3	264	4	222	3	193	2	184	2	182	3	180	4	193	2	224	2	210	2	218	3	246	3	229	2	224	4	216	3	212

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TABLE II.—SHOWING THE WEEKLY AND PROGRESSIVE AMOUNTS OF RAINFALL IN EACH DISTRICT, DURING THE YEAR 1890.

DATE. — LIMITS OF WEEKS.	Principal Wheat-producing Districts.														Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.
	Rainfall in Inches.																													
1890.																														
Dec. 29/89-Jan. 4	0·72	0·72	0·49	0·49	0·17	0·17	0·27	0·27	0·21	0·21	0·27	0·27	0·28	0·28	1·54	1·54	0·65	0·65	0·60	0·60	0·74	0·74	1·15	1·15	0·94	0·94	0·45	0·45	0·60	0·60
Jan. 5-11	1·84	2·56	1·29	1·78	0·43	0·60	0·38	0·65	0·36	0·57	0·56	0·83	0·60	0·88	2·01	3·55	1·04	1·69	0·71	1·31	1·44	2·18	1·32	2·47	1·30	2·24	0·73	1·18	0·95	1·55
12-18	1·85	4·41	1·26	3·04	0·21	0·81	0·19	0·84	0·40	0·97	0·37	1·20	0·49	1·37	1·85	5·40	0·71	2·40	1·02	2·33	1·24	3·42	1·20	3·67	1·21	3·45	0·51	1·69	0·85	2·40
19-25	2·25	6·66	1·41	4·45	0·71	1·52	0·49	1·33	1·16	2·13	0·94	2·14	0·94	2·31	2·24	7·64	1·49	3·89	2·21	4·54	1·25	4·67	1·98	5·65	1·83	5·28	1·91	3·60	1·40	3·80
Jan. 26-Feb. 1	1·50	8·16	0·33	4·78	0·47	1·99	1·00	2·33	0·99	3·12	0·91	3·05	0·74	3·05	1·13	8·77	1·03	4·92	1·30	5·84	0·51	5·18	1·32	6·97	1·06	6·34	0·94	4·54	0·90	4·70
Feb. 2-8	0·23	8·39	0·02	4·80	0·04	2·03	0·06	2·39	0·02	3·14	0·05	3·10	0·04	3·09	0·16	8·93	0·02	4·94	0·01	5·85	0·10	5·28	0·13	7·10	0·08	6·42	0·07	4·61	0·06	4·76
9-15	0·27	8·66	0·54	5·34	0·70	2·73	0·53	2·92	0·38	3·52	0·71	3·81	0·57	3·66	0·06	8·99	0·17	5·11	0·26	6·11	0·15	5·43	1·00	8·10	0·33	6·75	1·14	5·75	0·45	5·21
16-22	0·38	9·04	0·27	5·61	0·12	2·85	0·05	2·97	0·25	3·77	0·10	3·91	0·16	3·82	0·43	9·42	0·32	5·43	0·74	6·85	0·48	5·91	0·90	9·00	0·57	7·32	0·94	6·69	0·37	5·58
Feb. 23-Mar. 1	0·29	9·33	0·19	5·80	0·47	3·32	0·31	3·28	0·06	3·83	0·14	4·05	0·23	4·05	0·10	9·52	0·16	5·59	0·09	6·94	0·09	6·00	0·05	9·05	0·10	7·42	0·07	6·76	0·17	5·75
Mar. 2-8	1·72	11·05	0·70	6·50	0·20	3·52	0·27	3·55	0·15	3·98	0·37	4·42	0·34	4·39	1·15	10·67	0·45	6·04	0·38	7·32	0·44	6·44	0·30	9·35	0·54	7·96	0·45	7·21	0·44	6·19
9-15	2·35	13·40	0·37	6·87	0·05	3·57	0·23	3·78	0·20	4·18	0·16	4·58	0·20	4·59	1·53	12·20	0·57	6·61	0·35	7·67	1·25	7·69	1·34	10·69	1·01	8·97	0·19	7·40	0·60	6·79
16-22	1·06	14·46	0·84	7·71	0·82	4·39	1·40	5·18	0·37	4·55	0·55	5·13	0·80	5·39	0·66	12·86	0·59	7·20	0·57	8·24	0·33	8·02	0·85	11·54	0·60	9·57	0·17	7·57	0·70	7·49
23-29	0·73	15·19	0·41	8·12	0·77	5·16	0·40	5·58	0·50	5·05	0·49	5·62	0·51	5·90	0·78	13·64	1·21	8·41	0·67	8·91	0·66	8·68	1·19	12·73	0·90	10·47	0·57	8·14	0·71	8·20
Mar. 30-April 5	0·14	15·33	0·07	8·19	0·00	5·16	0·00	5·58	0·00	5·05	0·01	5·63	0·02	5·92	0·22	13·86	0·06	8·47	0·11	9·02	0·06	8·74	0·07	12·80	0·11	10·58	0·03	8·17	0·07	8·27
April 6-12	1·19	16·52	0·27	8·46	0·32	5·48	0·36	5·94	0·34	5·39	0·26	5·89	0·31	6·23	0·60	14·46	0·59	9·06	0·59	9·61	0·55	9·29	0·37	13·17	0·54	11·13	0·34	8·51	0·42	8·69
13-19	0·09	16·61	0·18	8·64	0·12	5·60	0·15	6·09	0·26	5·65	0·79	6·68	0·30	6·53	0·10	14·56	0·09	9·15	0·47	10·08	0·08	9·37	0·32	13·49	0·21	11·33	0·53	9·04	0·26	8·95
20-26	1·32	17·93	0·66	9·30	0·20	5·80	0·39	6·48	0·33	5·98	1·38	8·06	0·59	7·12	1·06	15·62	0·35	9·50	1·49	11·57	0·54	9·91	0·62	14·11	0·81	12·14	1·17	10·21	0·70	9·65
April 27-May 3	0·14	18·07	0·11	9·41	0·05	5·85	0·07	6·55	0·16	6·14	0·04	8·10	0·09	7·21	0·26	15·88	0·22	9·72	0·46	12·03	0·59	10·50	1·14	15·25	0·53	12·67	0·34	10·55	0·31	9·96
May 4-10	0·12	18·19	0·39	9.80	1·03	6·88	1·20	7·75	0·89	7·03	0·94	9·04	0·83	8·10	0·54	16·42	0·44	10·16	0·86	12·89	0·17	10·67	0·79	16·04	0·56	13·23	0·79	11·34	0·72	10·68
11-17	0·69	18·88	1·05	10·85	0·76	7·64	0·16	7·91	0·67	7·70	0·35	9·39	0·60	8·70	1·70	18·12	1·07	11·23	0·60	13·49	0·57	11·24	1·03	17·07	0·99	14·22	0·63	11·97	0·80	11·48
18-24	0·18	19·06	0·22	11·07	0·13	7·77	0·13	8·04	0·41	8·11	0·33	9·72	0·24	8·94	0·41	18·53	0·30	11·53	0·55	14·04	0·22	11·46	0·75	17·82	0·45	14·67	1·01	12·98	0·35	11·83
May 25-31	0·65	19·71	0·27	11·34	0·26	8·03	0·12	8·16	0·15	8·26	0·07	9·79	0·17	9·11	0·48	19·01	0·37	11·90	0·37	14·41	0·41	11·87	0·35	18·17	0·40	15·07	0·62	13·60	0·29	12·12
June 1-7	1·39	21·10	0·59	11·93	0·29	8·32	0·37	8·53	0·10	8·36	0·45	10·24	0·36	9·47	1·69	20·70	0·49	12·39	0·45	14·86	1·28	13·15	1·19	19·36	1·02	16·09	0·61	14·21	0·69	12·81
8-14	0·35	21·45	0·73	12·66	0·84	9·16	0·66	9·19	0·53	8·89	0·78	11·02	0·71	10·18	1·26	21·96	0·78	13·17	0·92	15·78	0·48	13·63	0·63	19·99	0·80	16·89	0·97	15·18	0·75	13·56
15-21	1·20	22·65	0·44	13·10	0·36	9·52	0·24	9·43	0·27	9·16	0·22	11·24	0·31	10·49	0·93	22·89	0·60	13·77	0·41	16·19	0·54	14·17	0·41	20·40	0·58	17·47	0·13	15·31	0·44	14·00
22-28	1·00	23·65	0·62	13·72	0·34	9·86	0·64	10·07	0·57	9·73	0·65	11·89	0·56	11·05	0·85	23·74	0·65	14·42	0·79	16·98	0·83	15·00	0·81	21·21	0·79	18·26	0·57	15·88	0·68	14·68
June 29-July 5	0·23	23·88	0·70	14·42	1·37	11·23	1·30	11·37	0·87	10·60	1·83	13·72	1·21	12·26	0·79	24·53	0·95	15·37	1·14	18·12	0·68	15·68	0·61	21·82	0·84	19·10	1·89	17·77	1·03	15·71
July 6-12	1·52	25·40	1·29	15·71	0·31	11·54	0·55	11·92	0·41	11·01	0·68	14·40	0·65	12·91	1·19	25·72	0·56	15·93	0·95	19·07	0·59	16·27	0·91	22·73	0·84	19·94	0·88	18·65	0·74	16·45
13-19	1·02	26·42	0·67	16·38	0·53	12·07	2·27	14·19	0·97	11·98	1·58	15·98	1·21	14·12	0·81	26·53	0·50	16·43	1·35	20·42	0·63	16·90	0·61	23·34	0·78	20·72	1·67	20·32	1·00	17·45
20-26	0·87	27·29	0·27	16·65	0·21	12·28	0·07	14·26	0·30	12·28	0·10	16·08	0·19	14·31	0·85	27·38	0·85	17·28	0·20	20·62	0·63	17·53	0·53	23·87	0·61	21·33	0·04	20·36	0·40	17·85
July 27-Aug. 2	1·10	28·39	0·51	17·16	0·57	12·85	0·22	14·48	0·66	12·94	0·23	16·31	0·44	14·75	0·88	28·26	0·64	17·92	1·14	21·76	0·77	18·30	0·66	24·53	0·82	22·15	0·58	20·94	0·63	18·48
Aug. 3-9	0·89	29·28	0·15	17·31	0·09	12·94	0·08	14·56	0·32	13·26	0·69	17·00	0·26	15·01	0·35	28·61	0·07	17·99	0·92	22·68	0·15	18·45	0·29	24·82	0·36	22·51	0·31	21·25	0·31	18·79
10-16	1·32	30·60	1·80	19·11	2·47	15·41	0·95	15·51	0·93	14·19	0·63	17·63	1·36	16·37	1·55	30·16	1·51	19·50	0·92	23·60	1·57	20·02	0·80	25·62	1·27	23·78	0·32	21·57	1·31	20·10
17-23	1·24	31·84	0·54	19·65	0·67	16·08	0·50	16·01	0·62	14·81	0·80	18·43	0·63	17·00	1·18	31·34	1·32	20·82	0·87	24·47	0·93	20·95	0·92	26·54	1·04	24·82	0·67	22·24	0·84	20·94
Aug. 24-30	0·95	32·79	1·19	20·84	0·65	16·73	0·48	16·49	0·56	15·37	0·91	19·34	0·76	17·76	0·79	32·13	1·33	22·15	0·84	25·31	1·04	21·99	0·72	27·26	0·95	25·77	0·74	22·98	0·85	21·79
31-Sept. 6	0·46	33·25	0·40	21·24	0·50	17·23	0·16	16·65	0·08	15·45	0·02	19·36	0·23	17·99	1·17	33·30	0·57	22·72	0·12	25·43	1·18	23·17	0·28	27·54	0·66	26·43	0·01	22·99	0·45	22·24
Sept. 7-13	0·33	33·58	0·04	21·28	0·00	17·23	0·00	16·65	0·00	15·45	0·00	19·36	0·01	18·00	0·19	33·40	0·01	22·73	0·01	25·44	0·03	23·20	0·00	27·54	0·03	26·46	0·00	22·99	0·02	22·26
14-20	0·55	34·13	0·49	21·77	0·45	17·68	0·44	17·09	0·41	15·86	0·63	19·99	0·48	18·48	0·89	34·29	0·57	23·30	0·92	26·36	1·12	24·32	1·03	29·17	1·03	27·49	0·61	23·60	0·76	23·02
21-27	1·63	35·76	0·34	22·11	0·46	18·14	0·21	17·30	0·49	16·35	0·50	20·49	0·40	18·88	1·47	35·76	0·36	23·66	0·40	26·76	0·83	25·18	0·42	29·59	0·70	28·19	0·36	23·96	0·55	23·57
Sept. 28-Oct. 4	5·13	40·89	1·77	23·88	0·30	18·44	0·02	17·32	0·07	16·42	0·07	20·56	0·45	19·33	2·49	38·25	1·36	25·02	0·34	27·10	1·44	26·62	0·43	30·02	1·21	29·40	0·09	24·05	0·83	24·40
Oct. 5-11	1·08	41·97	0·08	23·96	0·23	18·67	0·22	17·54	0·34	16·76	0·23	20·79	0·22	19·55	0·65	38·90	0·42	25·44	0·62	27·72	0·41	27·06	0·69	30·71	0·57	29·97	0·15	24·20	0·39	24·79
12-18	1·44	43·41	0·67	24·63	0·21	18·88	0·46	18·00	0·43	17·19	0·24	21·03	0·40	19·95	1·06	39·96	0·79	26·23	0·42	28·14	0·80	27·86	0·45	31·16	0·70	30·67	0·34	24·54	0·55	25·34
19-25	1·34	44·75	0·57	25·20	0·59	19·47	0·25	18·25	0·45	17·64	0·44	21·47	0·46	20·41	0·57	40·53	0·77	27·00	0·61	28·75	0·68	28·54	0·43	31·59	0·61	31·28	0·41	24·95	0·54	25·88
Oct. 26-Nov. 1	2·81	47·56	1·58	26·78	0·95	20·42	0·83	19·08	0·42	18·06	0·39	21·86	0·83	21·24	2·22	42·75	1·28	28·28	1·29	30·04	1·62	30·16	1·12	32·71	1·51	32·79	0·97	25·92	1·17	27·05
Nov. 2-8	2·01	49·57	1·75	28·53	0·95	21·37	0·85	19·93	1·48	19·54	0·96	22·82	1·20	22·44	2·53	45·28	2·08	30·36	2·03	32·07	1·92	32·08	1·93	34·64	2·19	34·89	1·91	27·83	1·65	28·70
9-15	1·05	50·62	1·34	29·87	0·87	21·74	0·30	20·23	0·59	20·13	0·50	23·32	0·62	23·06	1·97	47·25	1·21	31·57	1·31	33·38	1·80	33·88	1·77	36·41	1·61	36·50	1·36	29·19	1·12	29·82
16-22	1·73	52·35	0·72	30·59	0·24	21·98	0·26	20·49	0·22	20·35	0·29	23·61	0·35	23·41	2·17	49·42	1·19	32·76	0·74	34·12	1·47	35·35	0·60	37·01	1·23	37·73	0·21	29·40	0·79	30·61
23-29	1·02	53·37	0·62	31·21	1·40	23·38	1·60	22·09	0·78	21·13	0·53	24·14	0·98	24·39	0·99	50·41	1·03	33·79	0·44	34·56	1·02	36·37	0·63	37·64	0·82	38·55	0·95	30·35	0·90	31·51
Nov. 30-Dec. 6	0·50	53·87	0·76	31·97	0·44	23·82	0·11	22·20	0·20	21·33	0·19	24·33	0·34	24·73	1·27	51·68	0·53	34·32	1·16	35·72	0·62	36·99	1·29	38·93	0·97	39·52	0·95	31·30	0·66	32·17
Dec. 7-13	0·19	54·06	0·08	32·05	0·05	23·87	0·01	22·21	0·01	21·34	0·01	24·34	0·03	24·76	0·16	51·84	0·00	34·32	0·06	35·78	0·47	37·46	0·74	39·67	0·29	39·81	0·03	31·33	0·16	32·33
14-20	0·51	54·57	0·25	32·30	0·13	24·00	0·24	22·45	0·35	21·69	0·81	25·15	0·36	25·12	0·22	52·06	0·26	34·58	1·14	36·92	0·93	38·39	0·99	40·66	0·71	40·52	0·78	32·11	0·53	32·86
21-27	0·33	54·90	0·33	32·63	0·63	24·63	0·12	22·57	0·21	21·90	0·10	25·25	0·28	25·40	0·51	52·57	0·37	34·95	0·99	37·91	0·16	38·55	0·44	41·10	0·49	41·01	0·66	32·77	0·39	33·25
Dec. 28-Jan 3, 1891	0·18	55·08	0·25	32·88	0·21	24·84	0·09	22·66	0·09	21·99	0·17	25·42	0·16	25·56	0·25	52·82	0·14	35·09	0·18	38·09	0·18	38·73	0·29	41·39	0·20	41·22	0·13	32·90	0·18	33·43

TABLE III.—SHOWING THE WEEKLY AND PROGRESSIVE VALUES OF ACCUMULATED HEAT ABOVE 42° F. IN EACH DISTRICT, DURING THE YEAR 1890.

DATE. — LIMITS OF WEEKS.	Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/90.
	Day-Degrees above 42° Fahrenheit.																											
1890.																												
Dec. 29/89–Jan. 4	11	11	5	5	0	0	0	0	0	0	0	0	1	1	7	7	0	0	6	6	11	11	27	27	10	10	10	10	6	6
Jan. 5–11	23	34	29	34	34	34	34	34	38	38	39	39	35	36	32	39	36	36	44	50	34	45	41	68	37	47	53	63	36	42
12–18	27	61	31	65	29	63	30	64	37	75	32	71	32	68	29	68	33	69	39	89	36	81	39	107	35	82	49	112	33	75
19–25	0	61	0	65	6	69	15	79	13	88	31	102	13	81	5	73	9	78	30	119	6	87	13	120	13	95	38	150	13	88
Jan. 26–Feb. 1	8	69	12	77	11	80	10	89	13	101	27	129	15	96	21	94	17	95	26	145	11	98	26	146	20	115	39	189	18	106
Feb. 2–8	11	80	10	87	5	85	5	94	5	106	4	133	6	102	7	101	5	100	6	151	9	107	10	156	8	123	14	203	6	112
9–15	2	82	0	87	0	85	0	94	0	106	0	133	0	102	0	101	0	100	2	153	0	107	8	164	2	125	21	224	1	113
16–22	4	86	0	87	0	85	1	95	5	111	11	144	3	105	1	102	4	104	24	177	13	120	28	192	14	139	43	267	9	122
Feb. 23–Mar. 1	1	87	6	93	0	85	0	95	3	114	0	144	2	107	8	110	0	104	5	182	9	129	11	203	7	146	8	275	4	126
Mar. 2–8	2	89	7	100	7	92	4	99	8	122	6	150	6	113	8	118	4	108	8	190	13	142	15	218	10	156	13	288	8	134
9–15	15	104	34	134	35	127	37	136	37	159	35	185	36	149	26	144	29	137	28	218	28	170	36	254	29	185	35	323	33	167
16–22	13	117	13	147	14	141	30	166	33	192	30	215	24	173	17	161	26	163	29	247	18	188	21	275	22	207	29	352	23	190
23–29	27	144	34	181	38	179	46	212	42	234	39	254	40	213	31	192	29	192	40	287	33	221	42	317	35	242	50	402	38	228
Mar. 30–April 5	39	183	52	233	39	218	28	240	36	270	44	298	40	253	42	234	43	235	43	330	47	268	49	366	45	287	39	441	42	270
April 6–12	8	191	16	249	15	233	32	272	30	300	30	328	25	278	29	263	23	258	28	358	30	298	35	401	29	316	29	470	27	297
13–19	20	211	13	262	8	241	29	301	30	330	38	366	23	301	27	290	24	282	36	394	28	326	36	437	30	346	51	521	27	324
20–26	31	242	39	301	37	278	44	345	43	373	40	406	41	342	35	325	35	317	44	438	39	365	52	489	41	387	52	573	41	365
April 27–May 3	43	285	50	351	42	320	58	403	66	439	58	464	55	397	51	376	55	372	53	491	46	411	50	539	51	438	64	637	53	418
May 4–10	59	344	47	398	46	366	60	463	62	501	69	533	57	454	71	447	69	441	66	557	67	478	69	608	68	506	73	710	63	481
11–17	45	389	55	453	67	433	78	541	72	573	86	619	71	525	62	509	63	504	69	626	53	531	53	661	60	566	80	790	65	546
18–24	83	472	81	534	85	518	93	634	93	666	102	721	91	616	95	604	103	607	95	721	95	626	90	751	96	662	91	881	94	640
May 25–May 31	34	506	50	584	48	566	65	699	66	732	84	805	63	679	53	659	63	670	82	803	64	690	81	832	69	731	84	965	66	706
June 1–7	57	563	77	661	92	658	95	794	90	822	91	896	89	768	70	729	83	753	84	887	72	762	92	924	80	811	92	1057	85	791
8–14	62	625	76	737	81	739	93	887	90	912	100	996	88	856	85	814	89	842	95	982	97	859	105	1029	94	905	99	1156	91	882
15–21	69	694	92	829	109	848	111	998	108	1020	111	1107	106	962	90	904	102	944	104	1086	101	960	109	1138	101	1006	104	1260	103	985
22–28	67	761	83	912	104	952	124	1122	117	1137	120	1227	109	1071	88	992	103	1047	112	1198	92	1052	104	1242	100	1106	111	1371	105	1090
June 29–July 5	64	825	74	986	80	1032	92	1214	87	1224	97	1324	86	1157	84	1076	85	1132	86	1284	81	1133	86	1328	85	1191	94	1465	86	1176
July 6–12	48	873	65	1051	83	1115	84	1298	78	1302	95	1419	81	1238	73	1149	81	1213	86	1370	74	1207	85	1413	80	1271	100	1565	80	1256
13–19	72	945	90	1141	110	1225	133	1431	122	1424	133	1552	117	1355	95	1244	112	1325	109	1479	99	1306	106	1519	104	1375	122	1687	110	1366
20–26	77	1022	99	1240	117	1342	123	1554	127	1551	132	1684	120	1475	106	1350	119	1444	130	1609	112	1418	130	1649	119	1494	123	1810	120	1486
July 27–Aug. 2	92	1114	109	1349	132	1474	138	1692	129	1680	138	1822	129	1604	106	1456	121	1565	121	1730	110	1528	116	1765	115	1609	134	1944	122	1608
Aug. 3–9	100	1214	119	1468	135	1609	134	1826	134	1814	139	1961	132	1736	118	1574	132	1697	130	1860	125	1653	132	1897	128	1737	134	2078	130	1738
10–16	93	1307	97	1565	113	1722	131	1957	122	1936	140	2101	121	1857	109	1683	113	1810	123	1983	99	1752	107	2004	110	1847	131	2209	116	1854
17–23	69	1376	83	1648	99	1821	112	2069	107	2043	125	2226	105	1962	89	1772	98	1908	113	2096	88	1840	99	2103	97	1944	123	2332	101	1955
Aug. 24–30	57	1433	59	1707	69	1890	76	2145	69	2112	93	2319	73	2035	68	1840	69	1977	81	2177	66	1906	71	2174	71	2015	99	2431	72	2027
31–Sept. 6	85	1518	100	1807	111	2001	104	2249	106	2218	113	2432	107	2142	97	1937	109	2086	112	2289	109	2015	121	2295	110	2125	111	2542	109	2136
Sept. 7–13	95	1613	106	1913	116	2117	113	2362	115	2333	123	2555	115	2257	99	2036	116	2202	121	2410	112	2127	118	2413	113	2238	134	2676	114	2250
14–20	105	1718	110	2023	120	2237	128	2490	116	2449	127	2682	120	2377	104	2140	120	2322	113	2523	109	2236	109	2522	111	2349	122	2798	115	2365
21–27	88	1806	96	2119	106	2343	114	2604	105	2554	120	2802	108	2485	101	2241	107	2429	107	2630	95	2331	105	2627	103	2452	113	2911	106	2471
Sept. 28–Oct. 4	45	1851	63	2182	90	2433	99	2703	97	2651	105	2907	91	2576	78	2319	90	2519	94	2724	79	2410	90	2717	86	2538	106	3017	89	2560
Oct. 5–11	62	1913	76	2258	80	2513	85	2788	76	2727	91	2998	82	2658	75	2394	84	2603	87	2811	81	2491	93	2810	85	2623	101	3118	83	2643
12–18	46	1959	48	2306	53	2566	61	2849	56	2783	59	3057	55	2713	55	2449	53	2656	64	2875	57	2548	69	2879	59	2682	85	3203	57	2700
19–25	39	1998	39	2345	47	2613	41	2890	34	2817	48	3105	42	2755	47	2496	52	2708	56	2931	62	2610	73	2952	58	2740	74	3277	50	2750
Oct. 26–Nov. 1	16	2014	20	2365	30	2643	30	2920	34	2851	38	3143	30	2785	32	2528	32	2740	40	2971	35	2645	47	2999	37	2777	60	3337	34	2784
Nov. 2–8	14	2028	15	2380	26	2669	32	2952	33	2884	39	3182	29	2814	30	2558	31	2771	40	3011	33	2678	39	3038	34	2811	67	3404	31	2815
9–15	20	2048	13	2393	17	2686	23	2975	23	2907	41	3223	24	2838	26	2584	29	2800	37	3048	29	2707	37	3075	32	2843	55	3459	28	2843
16–22	34	2082	37	2430	41	2727	38	3013	47	2954	62	3285	45	2883	37	2621	45	2845	64	3112	41	2748	60	3135	49	2892	77	3536	47	2890
23–29	0	2082	0	2430	0	2727	0	3013	0	2954	0	3285	0	2883	0	2621	0	2845	0	3112	2	2750	6	3141	2	2894	10	3546	1	2891
Nov. 30–Dec. 6	10	2092	8	2438	2	2729	0	3013	0	2954	0	3285	2	2885	17	2638	5	2850	4	3116	20	2770	22	3163	15	2907	8	3554	7	2898
Dec. 7–13	0	2092	0	2438	0	2729	0	3013	0	2954	0	3285	0	2885	0	2638	0	2850	0	3116	0	2770	4	3167	1	2908	5	3559	1	2899
14–20	0	2092	0	2438	0	2729	0	3013	0	2954	0	3285	0	2885	0	2638	0	2850	0	3116	0	2770	3	3170	1	2909	3	3562	0	2899
21–27	0	2092	0	2438	0	2729	0	3013	0	2954	0	3285	0	2885	0	2638	0	2850	0	3116	0	2770	3	3173	1	2910	1	3563	1	2900
Dec. 28–Jan. 3, 1891	0	2092	0	2438	0	2729	0	3013	0	2954	0	3285	0	2885	0	2638	0	2850	0	3116	0	2770	0	3173	0	2910	4	3567	0	2900

TABLE IV.—SHOWING THE WEEKLY AND PROGRESSIVE VALUES OF ACCUMULATED HEAT BELOW 42° F. IN EACH DISTRICT, DURING THE YEAR 1890.

DATE. — LIMITS OF WEEKS.	Principal Wheat-producing Districts.														Principal Grazing, &c. Districts.														Channel Islands.		Means for the British Islands generally.	
	0. Scotland, N.		1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.						
	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.			Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.
	Day-Degrees below 42° Fahrenheit.																															
1890.																																
Dec. 29/89-Jan. 4	24	24	37	37	59	59	78	78	74	74	52	52	60	60	24	24	37	37	39	39	20	20	10	10	26	26	20	20	43	43
Jan. 5-11	12	36	13	50	6	65	3	81	4	78	0	52	5	[65	3	27	1	38	0	39	5	25	0	10	2	28	0	20	4	47
12-18	10	46	11	61	8	73	11	92	9	87	3	55	8	73	3	30	4	42	0	39	8	33	1	11	3	31	0	20	5	52
19-25	38	84	41	102	30	103	33	125	32	119	13	68	30	103	29	59	24	66	13	52	31	64	26	37	25	56	0	20	28	80
Jan. 26-Feb. 1	25	109	27	129	20	123	25	150	25	144	9	77	21	124	11	70	11	77	8	60	20	84	14	51	13	69	0	20	17	97
Feb. 2-8	30	139	38	167	26	149	35	185	38	182	34	111	34	158	28	98	27	104	34	94	31	115	35	86	30	99	9	29	32	129
9-15	39	178	56	223	34	183	41	226	51	233	35	146	43	201	44	142	46	150	31	125	34	149	25	111	36	135	11	40	40	169
16-22	23	201	33	256	27	210	28	254	30	263	20	166	28	229	24	166	25	175	9	134	21	170	8	119	18	153	0	40	23	192
Feb. 23-Mar. 1	28	229	33	289	34	244	47	301	42	305	38	204	39	268	32	198	32	207	33	167	23	193	24	143	29	182	8	48	34	226
Mar. 2-8	43	272	42	331	35	279	48	349	41	346	43	247	42	310	28	226	30	237	33	200	26	219	23	166	28	210	23	71	35	261
9-15	28	300	14	345	7	286	17	366	10	356	9	256	11	321	9	235	6	243	2	202	4	223	1	167	4	214	0	71	7	268
16-22	28	328	25	370	21	307	17	383	20	376	14	270	19	340	25	260	13	256	15	217	32	255	33	200	24	238	0	71	22	290
23-29	12	340	13	383	1	308	1	384	3	379	0	270	4	344	6	266	1	257	0	217	2	257	0	200	2	240	0	71	3	293
Mar. 30-April 5	18	358	20	403	20	328	37	421	47	426	20	290	29	373	18	284	18	275	18	235	15	272	18	218	17	257	0	71	23	316
April 6-12	30	388	28	431	26	354	19	440	19	445	13	303	21	394	17	301	12	287	9	244	11	283	5	223	11	268	0	71	16	332
13-19	29	417	30	461	17	371	9	449	11	456	0	303	13	407	13	314	10	297	0	244	9	292	1	224	7	275	0	71	10	342
20-26	10	427	12	473	9	380	7	456	7	463	0	303	7	414	5	319	3	300	0	244	2	294	0	224	2	277	0	71	5	347
April 27-May 3	8	435	9	482	9	389	12	468	13	476	2	305	9	423	5	324	2	302	1	245	0	294	0	224	2	279	0	71	6	353
May 4-10	0	435	0	482	0	389	0	468	0	476	0	305	0	423	0	324	0	302	0	245	0	294	0	224	0	279	0	71	0	353
11-17	0	435	0	482	0	389	0	468	0	476	0	305	0	423	0	324	0	302	0	245	0	294	0	224	0	279	0	71	0	353
18-24	0	435	0	482	0	389	0	468	0	476	0	305	0	423	0	324	0	302	0	245	0	294	0	224	0	279	0	71	0	353
May 25-May 31	3	438	3	485	0	389	0	468	2	478	0	305	1	424	1	325	0	302	0	245	0	294	0	224	0	279	0	71	1	354
June 1-7	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
8-14	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
15-21	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
22-28	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
June 29-July 5	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
July 6-12	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
13-19	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
20-26	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
July 27-Aug. 2	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
Aug. 3-9	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
10-16	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
17-23	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
Aug. 24-30	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
31-Sept. 6	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
Sept. 7-13	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
14-20	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
21-27	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
Sept. 28-Oct. 4	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
Oct. 5-11	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
12-18	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
19-25	0	438	0	485	0	389	0	468	0	478	0	305	0	424	0	325	0	302	0	245	0	294	0	224	0	279	0	71	0	354
Oct. 26-Nov. 1	25	463	28	513	15	404	17	494	14	500	9	317	16	444	10	335	7	309	0	245	3	297	0	224	4	283	0	71	10	366
Nov. 2-8	24	487	28	541	13	417	10	504	15	515	8	325	15	459	12	347	5	314	0	245	7	304	0	224	5	288	0	71	10	376
9-15	8	495	28	569	28	445	36	540	35	550	13	338	28	487	11	358	11	325	9	254	11	315	15	239	12	300	0	71	20	396
16-22	6	501	12	581	6	451	1	541	0	550	0	338	4	491	1	359	0	325	0	254	0	315	0	239	0	300	0	71	2	398
23-29	41	542	57	638	37	488	50	591	53	603	48	386	49	540	35	394	34	359	36	290	33	348	33	272	34	334	23	94	42	440
Nov. 30-Dec. 6	22	564	20	658	28	516	59	650	41	644	40	426	37	577	9	403	23	382	27	317	8	356	9	281	15	349	25	119	26	466
Dec. 7-13	35	599	55	713	49	565	67	717	85	729	67	493	65	642	41	444	66	448	43	360	26	382	28	309	41	390	19	138	53	519
14-20	37	636	62	775	73	638	100	817	102	831	97	590	87	729	50	494	83	531	57	417	39	421	33	342	52	442	27	165	70	589
21-27	38	674	58	833	74	712	106	923	106	937	85	675	86	815	46	540	67	598	51	468	40	461	43	385	50	492	21	186	68	657
Dec. 28-Jan. 3, 1891	35	709	35	884	53	765	96	1019	92	1029	83	758	75	890	38	578	56	654	62	530	39	500	40	425	47	539	31	217	61	718

TABLE V.—SHOWING THE WEEKLY AND PROGRESSIVE NUMBERS OF HOURS OF BRIGHT SUNSHINE IN EACH DISTRICT, REGISTERED DURING THE YEAR 1890.

DATE. — LIMITS OF WEEKS.	0. Scotland, N.		Principal Wheat-producing Districts.												Principal Grazing, &c. Districts.												Channel Islands.		Means for the British Islands generally.	
			1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat-producing Districts.		6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.					
	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.
	Numbers of Hours of Bright Sunshine.																													
1890.																														
Dec. 29/89–Jan. 4	2	2	3	3	4	4	10	10	8	8	8	8	7	7	7	7	5	5	13	13	13	13	10	10	9	9	16	16	8	8
Jan. 5–11	2	4	5	8	2	6	8	18	7	15	9	17	6	13	3	10	3	8	5	18	9	22	11	21	6	15	5	21	6	14
12–18	1	5	9	17	14	20	13	31	12	27	12	29	12	25	9	19	13	21	11	29	11	33	14	35	12	27	13	34	12	26
19–25	8	13	13	30	10	30	17	48	17	44	14	43	14	39	9	28	8	29	14	43	17	50	17	52	13	40	12	46	14	40
Jan. 26–Feb. 1	7	20	15	45	18	48	15	63	13	57	10	53	14	53	9	37	9	38	9	52	9	59	10	62	9	49	15	61	12	52
Feb. 2–8	18	38	28	73	21	69	22	85	18	75	20	73	22	75	21	58	24	62	32	84	22	81	30	92	26	75	28	89	24	76
9–15	26	64	8	81	11	80	29	114	16	91	21	94	17	92	7	65	20	82	16	100	15	96	17	109	15	90	34	123	16	92
16–22	8	72	7	88	7	87	15	129	9	100	15	109	11	103	5	70	9	91	19	119	8	104	11	120	10	100	19	142	10	102
Feb. 23–Mar. 1	12	84	20	108	16	103	18	147	19	119	23	132	19	122	23	93	23	114	32	151	12	116	20	140	22	122	43	185	21	123
Mar. 2–8	12	96	21	129	21	124	22	169	24	143	22	154	22	144	19	112	22	136	33	184	20	136	26	166	24	146	31	216	23	146
9–15	11	107	23	152	21	145	27	196	23	166	26	180	24	168	17	129	14	150	14	198	12	148	17	183	15	161	34	250	19	165
16–22	17	124	14	166	18	163	26	222	23	189	26	206	21	189	25	154	22	172	30	228	34	182	34	217	29	190	36	286	25	190
23–29	28	152	30	196	20	183	21	243	17	206	16	222	21	210	20	174	16	188	28	256	23	205	30	247	23	213	25	311	22	212
Mar. 30–Apr. 5	44	196	55	251	49	232	55	298	56	262	61	283	55	265	53	227	55	243	69	325	54	259	61	308	58	271	69	380	57	269
April 6–12	24	220	35	286	27	259	29	327	33	295	26	309	30	295	51	278	36	279	37	362	45	304	46	354	43	314	43	423	36	305
13–19	47	267	18	304	9	268	28	355	11	306	28	337	19	314	23	301	13	292	21	383	12	316	19	373	18	332	17	440	19	324
20–26	31	298	42	346	38	306	30	385	24	330	18	355	30	344	39	340	30	322	30	413	43	359	45	418	37	369	19	459	33	357
April 27–May 3	44	342	45	391	61	367	66	451	59	389	62	417	59	403	46	386	49	371	53	466	36	395	39	457	45	414	75	534	52	409
May 4–10	51	393	24	415	18	385	30	481	23	412	28	445	25	428	40	426	28	399	29	495	37	432	32	489	33	447	48	582	29	438
11–17	29	422	31	446	35	420	49	530	43	455	55	500	42	470	39	465	34	433	50	545	40	472	36	525	40	487	71	653	41	479
18–24	41	463	44	490	50	470	73	603	57	512	62	562	57	527	42	507	45	478	52	597	55	527	52	577	49	536	63	716	53	532
May 25–31	26	489	43	533	40	510	56	659	62	574	59	621	52	579	74	581	68	546	52	649	67	594	55	632	63	599	37	753	58	590
June 1–7	23	512	36	569	28	538	29	688	32	606	30	651	31	610	38	619	32	578	26	675	25	619	27	659	30	629	47	800	30	620
8–14	29	541	28	597	15	553	38	726	25	631	34	685	28	638	24	643	29	607	42	717	37	656	38	697	34	663	42	842	31	651
15–21	20	561	36	633	34	587	38	764	31	662	30	715	34	672	25	668	22	629	29	746	20	676	16	713	22	685	45	887	28	679
22–28	30	591	45	678	29	616	43	807	32	694	38	753	37	709	33	701	33	662	43	789	31	707	32	745	35	720	40	927	36	715
June 29–July 5	28	619	24	702	26	642	35	842	36	730	31	784	30	739	40	741	36	698	35	824	45	752	34	779	38	758	30	957	34	749
July 6–12	22	641	37	739	27	669	28	870	22	752	21	805	27	766	39	780	30	728	30	854	28	780	27	806	31	789	44	1001	29	778
13–19	27	668	33	772	31	700	39	909	36	788	30	835	34	800	45	825	34	762	28	882	40	820	46	852	38	827	33	1034	36	814
20–26	19	687	43	815	47	747	53	962	49	837	51	886	49	849	38	863	40	802	34	916	20	840	21	873	31	858	30	1064	40	854
July 27–Aug. 2	22	709	31	846	34	781	31	993	30	867	35	921	32	881	36	899	33	835	35	951	31	871	27	900	33	891	65	1129	33	887
Aug. 3–9	25	734	33	879	44	825	50	1043	40	907	50	971	43	924	34	933	42	877	48	999	28	899	48	948	40	931	78	1207	41	928
10–16	29	763	23	902	25	850	35	1078	36	943	38	1009	32	956	25	958	25	902	40	1039	27	926	33	981	30	961	44	1251	31	959
17–23	24	787	31	933	33	883	36	1114	30	973	37	1046	33	989	39	997	32	934	45	1084	30	956	40	1021	37	998	50	1301	35	994
Aug. 24–30	22	809	32	965	42	925	40	1163	43	1016	48	1094	43	1032	42	1039	42	976	53	1137	40	996	46	1067	45	1043	58	1359	44	1038
Aug. 31–Sept. 6	24	833	39	1004	34	959	32	1195	28	1044	35	1129	33	1065	27	1066	23	999	26	1163	16	1012	21	1088	22	1065	47	1406	27	1065
Sept. 7–13	42	875	52	1056	48	1007	60	1255	50	1094	58	1187	54	1119	42	1108	43	1042	63	1226	33	1045	42	1130	45	1110	74	1480	50	1115
14–20	31	906	28	1084	36	1043	54	1309	46	1140	51	1238	43	1162	32	1140	37	1079	43	1269	32	1077	31	1161	35	1145	47	1527	39	1154
21–27	14	920	16	1100	27	1070	31	1340	27	1167	27	1265	26	1188	14	1154	17	1096	19	1288	8	1085	17	1178	15	1160	30	1557	21	1175
Sept. 28–Oct. 4	6	926	14	1114	21	1091	39	1379	35	1202	34	1299	29	1217	16	1170	20	1116	30	1318	18	1103	30	1208	23	1183	25	1582	26	1201
Oct. 5–11	19	945	31	1145	24	1115	42	1421	34	1236	39	1338	34	1251	21	1191	20	1136	34	1352	14	1117	21	1229	22	1205	45	1627	28	1229
12–18	13	958	29	1174	37	1152	38	1459	38	1274	33	1371	35	1286	28	1219	23	1159	39	1391	25	1142	28	1257	29	1234	33	1660	32	1261
19–25	7	965	9	1183	3	1155	7	1466	3	1277	10	1381	6	1292	8	1227	8	1167	17	1408	5	1147	10	1267	9	1243	11	1671	8	1269
Oct. 26–Nov. 1	11	976	16	1199	30	1185	27	1493	26	1303	24	1405	25	1317	21	1248	23	1190	22	1430	14	1161	14	1281	19	1262	27	1698	22	1291
Nov. 2–8	11	987	10	1209	15	1200	23	1516	18	1321	22	1427	18	1335	13	1261	12	1202	20	1450	16	1177	20	1301	16	1278	12	1710	17	1308
9–15	12	999	13	1222	16	1216	21	1537	23	1344	18	1445	18	1353	15	1276	9	1211	18	1468	20	1197	24	1325	17	1295	17	1727	18	1326
16–22	4	1003	10	1232	9	1225	5	1542	6	1350	6	1451	7	1360	3	1279	7	1218	3	1471	5	1202	14	1339	6	1301	9	1736	6	1332
23–29	9	1012	12	1244	10	1235	6	1548	7	1357	7	1458	8	1368	13	1292	20	1238	30	1501	18	1220	18	1357	20	1321	18	1754	14	1346
Nov. 30–Dec. 6	5	1017	3	1247	2	1237	3	1551	0	1357	5	1463	3	1371	3	1295	1	1239	2	1503	8	1228	3	1360	3	1324	12	1766	3	1349
Dec. 7–13	3	1020	1	1248	1	1238	7	1558	2	1359	14	1477	5	1376	0	1295	2	1241	4	1507	8	1236	10	1370	5	1329	25	1791	5	1354
14–20	7	1027	2	1250	4	1242	4	1562	2	1361	4	1481	3	1379	1	1296	2	1243	12	1519	9	1245	10	1380	7	1336	16	1807	5	1359
21–27	6	1033	7	1257	4	1246	4	1566	4	1365	6	1487	5	1384	4	1300	6	1249	5	1524	13	1258	15	1395	9	1345	21	1808	7	1366
Dec. 28–Jan. 3, 1891	10	1043	2	1259	1	1247	2	1568	0	1365	4	1491	2	1386	2	1302	5	1254	4	1528	6	1264	6	1401	4	1349	14	1842	3	1369

TABLE VI.—SHOWING THE WEEKLY AND PROGRESSIVE VALUES FOR THE PERCENTAGES OF THE POSSIBLE DURATION OF BRIGHT SUNSHINE IN EACH DISTRICT, WHICH WAS ACTUALLY RECORDED DURING THE YEAR 1890.

DATE. — LIMITS OF WEEKS.	0. Scotland, N.		Principal Wheat-producing Districts. 1. Scotland, E.		2. England, N.E.		3. England, E.		4. Midland Counties.		5. England, S.		Means for Wheat Producing Districts.		Principal Grazing, &c. Districts. 6. Scotland, W.		7. England, N.W.		8. England, S.W.		9. Ireland, N.		10. Ireland, S.		Means for Grazing, &c. Districts.		Channel Islands.		Means for the British Islands generally.	
	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.	Weekly.	From Dec. 29/89.
	Percentages of Possible Duration.																													
1890.																														
Dec. 29/89-Jan. 4	3	3	7	7	9	9	20	20	14	14	14	14	13	13	13	13	11	11	23	23	26	26	20	20	19	19	28	28	16	16
Jan. 5-11 - -	4	4	10	8	3	6	15	17	13	14	17	15	12	12	5	10	5	8	9	16	17	21	21	20	11	15	9	18	12	13
12-18 - -	3	4	18	12	26	13	23	19	21	17	21	17	22	16	17	12	25	13	18	17	21	21	25	21	21	17	22	19	22	17
19-25 - -	15	7	24	15	18	14	29	22	29	20	24	19	25	18	17	13	14	14	23	19	30	23	30	24	23	18	19	19	24	18
Jan. 26-Feb. 1 -	13	8	26	18	31	18	25	22	22	20	16	18	24	19	15	14	15	14	14	18	16	22	17	22	15	18	23	20	20	19
Feb. 2-8 - -	31	12	47	23	34	21	35	25	28	22	32	21	35	22	33	18	38	19	50	24	36	24	48	27	41	22	43	24	38	22
9-15 - -	40	17	13	21	17	20	43	28	24	22	32	22	26	23	11	17	31	20	24	24	23	24	26	27	23	22	49	28	25	23
16-22 - -	12	16	11	20	10	19	21	27	12	21	22	22	15	22	7	15	13	19	26	24	12	22	16	25	15	21	26	28	15	22
Feb. 23-Mar. 1 -	17	16	28	21	22	19	24	26	25	22	31	23	26	22	32	17	32	21	43	27	17	21	26	25	30	22	58	32	28	22
Mar. 2-8 - -	17	16	27	22	28	20	29	27	31	23	28	24	28	23	26	18	29	22	43	28	27	22	33	26	32	23	40	33	30	23
9-15 - -	13	16	29	23	26	21	33	28	29	23	32	25	30	24	22	19	16	21	18	27	16	21	21	25	18	23	42	34	24	23
16-22 - -	21	17	17	22	21	21	31	28	27	24	30	25	25	24	30	20	27	22	36	28	41	23	41	27	35	24	43	35	30	24
23-29 - -	33	18	35	23	23	21	24	27	19	23	18	25	24	24	23	20	18	22	32	29	27	24	34	28	27	25	28	34	26	25
Mar. 30-April 5 -	48	21	60	27	54	24	61	31	62	27	67	29	61	28	59	24	61	26	76	33	60	27	68	32	65	28	77	38	63	28
April 6-12 - -	25	22	37	28	29	24	31	31	35	28	28	29	32	28	54	27	38	26	40	33	48	29	50	32	46	29	46	39	30	29
13-19 - -	48	24	18	27	9	23	30	31	11	26	29	29	19	27	24	26	13	25	21	33	12	27	20	32	18	29	18	37	19	28
20-26 - -	30	24	41	28	37	24	30	30	24	26	18	28	30	27	39	27	29	26	30	32	42	29	45	33	37	30	19	36	34	29
April 27-May 3 -	41	26	43	29	58	27	64	33	58	29	60	30	57	30	44	29	47	27	52	34	35	29	38	34	43	31	74	38	50	31
May 4-10 - -	46	27	22	29	17	26	28	33	21	28	27	30	23	29	38	29	26	27	28	33	34	30	31	33	31	30	47	39	27	30
11-17 - -	26	27	28	29	32	27	45	34	40	29	52	31	39	30	36	30	31	28	46	34	37	30	34	33	37	31	67	41	38	31
18-24 - -	35	28	39	29	44	28	66	36	51	30	57	33	51	31	37	30	40	28	47	35	49	31	47	34	44	32	59	42	48	32
May 25-May 31 -	22	27	36	30	35	28	50	37	55	32	53	34	46	32	64	32	60	30	47	36	59	33	49	35	56	33	34	42	51	33
June 1-7 - -	19	27	30	30	24	28	25	36	29	32	27	34	27	32	33	32	28	30	23	35	22	32	24	34	26	33	42	42	27	33
8-14 - -	23	27	23	29	13	27	33	36	22	31	30	34	24	32	21	32	25	30	37	35	32	32	33	34	30	33	38	41	27	33
15-21 - -	16	26	29	29	28	27	33	36	27	31	27	33	29	31	21	31	19	29	25	35	17	31	14	33	19	32	41	41	24	32
22-28 - -	25	26	37	30	25	27	38	36	27	31	33	33	32	31	28	31	28	29	38	35	26	31	28	33	30	32	36	41	31	32
June 25-July 5 -	23	26	20	29	22	27	31	35	31	31	28	33	26	31	34	31	31	29	31	35	38	31	29	33	33	32	27	40	30	32
July 6-12 - -	19	25	31	29	23	27	25	35	19	30	19	32	23	31	34	31	25	29	27	34	23	31	23	32	26	31	40	40	25	31
13-19 - -	23	25	27	29	27	27	35	35	32	30	27	32	30	31	39	31	29	29	25	34	35	31	41	33	34	32	30	40	32	32
20-26 - -	17	25	38	30	42	27	48	35	44	31	47	33	44	31	34	32	36	29	31	34	18	31	19	32	28	32	28	39	36	32
July 27-Aug. 2 -	19	25	26	30	31	28	29	35	28	31	33	33	30	31	33	31	31	29	34	34	28	31	25	32	30	31	62	40	30	31
Aug. 3-9 - -	23	25	30	30	41	28	47	36	37	31	48	33	41	32	32	32	40	30	46	34	27	30	46	32	38	32	76	42	40	32
10-16 - -	27	25	21	29	24	28	34	36	35	31	37	33	30	31	24	31	24	30	40	34	27	30	32	32	29	31	43	42	30	31
17-23 - -	24	25	30	29	33	28	36	36	30	31	38	34	33	32	38	32	32	30	46	35	30	30	40	33	37	32	51	42	35	32
Aug. 24-30 - -	22	25	32	29	44	28	51	36	45	31	50	34	44	32	44	32	43	30	55	35	41	31	47	33	46	32	61	42	45	32
Aug. 31-Sept. 6 -	25	25	41	30	36	29	35	36	30	31	38	34	36	32	29	32	24	30	28	35	17	30	22	33	24	32	51	43	30	32
Sept. 7-13 - -	46	25	57	30	54	29	66	37	55	32	65	35	59	33	47	32	48	30	71	36	37	30	46	33	50	32	83	44	55	33
14-20 - -	36	25	32	31	41	30	63	37	52	33	58	36	49	33	37	32	43	31	50	37	37	31	36	33	41	33	55	44	45	33
21-27 - -	17	25	20	30	33	30	38	38	32	33	33	35	31	33	17	32	20	30	23	36	10	30	21	33	18	32	36	44	25	33
Sept. 28-Oct. 4 -	7	25	18	30	26	30	40	38	44	33	43	36	36	33	20	32	25	30	37	36	23	30	38	33	29	32	31	44	32	33
Oct. 5-11 - -	25	25	41	30	31	30	55	38	45	33	48	36	44	33	28	32	25	30	43	36	19	30	28	33	28	32	57	44	36	33
12-18 - -	18	25	40	30	48	30	52	38	51	33	45	36	47	33	38	32	32	30	53	37	34	30	39	33	39	32	44	44	43	33
19-25 - -	10	24	13	30	5	30	10	38	4	33	12	36	9	33	12	31	11	30	24	36	8	29	15	33	14	32	15	43	12	33
Oct. 26-Nov. 1 -	17	24	25	30	46	30	40	38	38	33	35	36	37	33	33	31	34	30	33	36	21	29	21	32	28	32	39	43	33	33
Nov. 2-8 - -	19	24	16	30	23	30	36	38	28	33	34	36	27	33	21	31	20	30	31	36	25	29	32	32	26	32	18	43	27	33
9-15 - -	18	24	23	30	27	30	35	38	37	33	29	36	30	33	26	31	16	30	29	36	34	29	39	33	29	32	27	43	29	33
16-22 - -	7	24	18	30	16	30	8	37	11	33	10	35	13	33	5	31	14	29	5	36	9	29	23	32	11	31	15	42	12	32
23-29 - -	17	24	23	30	19	29	10	37	12	32	13	35	15	33	25	31	36	29	52	36	34	29	31	32	36	31	30	42	26	32
Nov. 30-Dec. 6 -	11	24	6	29	3	29	5	37	0	32	8	35	4	32	6	30	3	29	5	35	16	29	5	32	7	31	20	42	6	32
Dec. 7-13 - -	7	24	3	29	3	29	14	36	4	32	26	34	10	32	0	30	4	29	8	35	16	29	19	32	9	31	43	42	10	31
14-20 - -	15	24	5	29	7	29	8	36	3	31	8	34	6	32	1	30	5	29	23	35	17	29	19	32	13	31	29	42	10	32
21-27 - -	14	23	16	29	8	28	9	36	7	31	13	34	11	32	8	30	11	28	9	34	27	29	29	32	17	31	38	42	14	32
Dec. 28-Jan. 3, 1891	22	23	4	28	1	28	4	35	0	31	8	33	3	31	5	29	10	28	7	34	12	28	11	31	9	30	25	41	6	31

WEEKLY WEATHER REPORT, 1890.

VOL. VII. APPENDIX III.] [*Price* 1*s*.
Third Series.

TABLE I.—SHOWING FOR EACH DISTRICT, DURING THE THIRTEEN YEARS 1878–90, THE MEAN AGGREGATE NUMBERS OF RAINY DAYS FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

NUMBERS OF WEEKS.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Numbers of Days with Rain.														
1	5	3	3	4	4	4	4	5	4	4	5	5	5	5	5
2	10	7	7	8	7	7	7	8	7	8	9	8	8	9	8
3	15	10	10	10	10	9	10	12	11	12	13	12	12	13	11
4	20	14	14	14	14	13	14	17	15	16	18	16	16	17	15
5	25	18	17	18	17	17	17	21	19	20	22	21	21	22	19
6	30	21	21	22	21	21	21	26	24	24	27	26	25	27	23
7	35	26	25	26	25	25	25	31	28	29	32	31	30	33	28
8	40	29	28	29	29	29	29	35	31	32	36	35	34	37	32
9	45	33	32	33	32	32	32	38	35	36	40	39	38	41	35
10	50	37	36	37	35	35	36	43	39	40	45	42	42	45	39
11	54	41	39	39	37	37	39	46	42	42	49	45	45	48	42
12	60	45	43	43	40	40	42	50	45	46	53	49	49	52	46
13	64	48	46	46	43	43	45	54	49	50	58	53	53	57	49
14	67	51	49	49	47	46	48	57	52	53	62	57	56	60	53
15	71	55	53	53	50	50	52	60	55	57	65	60	59	64	56
16	76	59	57	58	54	54	56	64	59	61	69	64	63	68	60
17	79	63	61	62	58	58	60	68	63	65	73	69	68	73	64
18	84	66	64	65	61	61	63	71	66	68	77	73	71	76	67
19	88	70	68	69	64	64	67	75	69	71	81	76	74	79	71
20	92	74	71	72	68	67	70	79	73	75	85	80	78	83	74
21	96	77	74	75	71	71	74	82	76	78	89	84	82	86	78
22	100	80	77	78	75	73	77	86	79	82	92	88	85	91	81
23	104	83	81	82	78	77	80	90	83	86	96	92	89	95	85
24	108	87	84	85	82	80	84	93	86	89	100	95	93	98	89
25	111	90	86	88	85	83	86	96	89	93	104	99	96	102	91
26	115	93	89	90	88	85	89	100	92	95	108	102	99	105	94
27	119	97	92	93	91	89	92	104	95	99	112	106	103	109	98
28	123	101	96	98	95	93	97	108	99	104	117	110	108	113	103
29	128	106	100	102	99	96	101	113	104	108	122	115	112	117	107
30	132	109	104	106	103	100	104	117	108	112	127	119	117	121	111
31	136	112	107	109	106	102	107	120	111	115	131	122	120	123	114
32	141	117	110	111	109	105	110	124	115	119	135	126	124	127	117
33	145	121	114	115	112	108	114	128	119	123	140	130	128	131	121
34	149	125	118	119	116	112	118	132	122	126	144	134	132	136	125
35	153	129	122	123	119	116	122	136	126	131	149	139	136	140	129
36	158	133	125	127	123	119	125	140	130	134	154	143	140	144	133
37	161	136	128	129	126	122	128	144	133	137	158	146	144	147	136
38	166	139	131	133	129	125	131	148	136	141	162	150	147	151	139
39	171	143	135	137	132	129	135	152	141	145	167	154	152	157	144
40	176	148	139	142	136	132	139	156	145	149	171	158	156	161	148
41	181	151	143	144	140	136	143	160	149	153	175	161	160	165	152
42	186	155	147	148	144	139	147	164	153	157	179	165	164	170	156
43	191	159	151	152	148	143	151	167	157	162	183	169	168	175	160
44	197	164	156	157	153	148	156	172	162	168	189	175	173	181	165
45	202	168	159	161	156	152	159	176	166	172	194	179	177	186	168
46	207	172	164	166	160	156	164	181	170	177	198	183	182	191	173
47	212	177	168	170	164	160	168	185	175	182	203	188	187	196	178
48	218	181	173	175	168	163	172	190	179	186	209	193	191	202	182
49	223	185	177	179	172	167	176	194	183	191	213	197	196	207	186
50	229	189	180	182	176	171	180	198	187	195	218	201	200	212	190
51	234	193	184	186	179	175	183	202	191	200	223	206	204	217	194
52	239	197	188	190	182	178	187	207	195	204	228	210	209	221	198

A 65536. 350.—1/91. Wt. 213. E. & S.

TABLE II.—SHOWING FOR EACH DISTRICT, DURING THE THIRTEEN YEARS 1878–90, THE MEAN AGGREGATE AMOUNTS OF RAINFALL FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Rainfall in Inches.														
1	0·86	0·49	0·33	0·41	0·42	0·51	0·43	1·19	0·72	0·79	0·84	1·07	0·92	0·71	0·68
2	1·57	0·92	0·69	0·75	0·74	0·87	0·79	1·98	1·25	1·37	1·45	1·75	1·56	1·27	1·18
3	2·52	1·38	0·91	1·00	1·06	1·25	1·12	2·95	1·70	1·88	2·13	2·41	2·21	1·72	1·67
4	3·59	1·95	1·41	1·41	1·68	1·74	1·64	4·05	2·55	2·82	3·04	3·45	3·18	2·51	2·41
5	4·58	2·47	1·81	1·80	2·28	2·33	2·14	5·17	3·27	3·76	3·80	4·45	4·09	3·22	3·12
6	5·23	2·94	2·23	2·34	2·92	3·06	2·70	6·22	3·99	4·63	4·51	5·55	4·98	3·98	3·84
7	5·99	3·49	2·67	2·92	3·47	3·73	3·26	7·20	4·50	5·46	5·23	6·44	5·77	4·74	4·52
8	6·65	3·85	2·96	3·16	3·77	4·04	3·56	7·87	4·99	5·96	5·74	7·29	6·37	5·31	4·97
9	7·20	4·22	3·38	3·52	4·20	4·53	3·97	8·49	5·54	6·70	6·35	8·04	7·02	5·84	5·50
10	8·09	4·82	3·94	3·95	4·66	4·93	4·46	9·44	6·23	7·34	6·95	8·65	7·72	6·36	6·09
11	8·72	5·23	4·20	4·09	4·77	5·14	4·69	9·97	6·54	7·57	7·34	9·19	8·12	6·62	6·41
12	9·59	5·67	4·61	4·57	5·23	5·56	5·13	10·65	7·11	8·16	7·91	9·72	8·71	7·19	6·92
13	10·19	6·05	4·98	4·84	5·56	5·91	5·47	11·26	7·57	8·78	8·55	10·45	9·32	7·71	7·40
14	10·58	6·40	5·42	5·15	6·10	6·32	5·88	11·83	8·07	9·38	9·10	11·13	9·90	8·20	7·89
15	11·02	6·81	5·86	5·62	6·55	6·76	6·32	12·41	8·53	9·89	9·54	11·58	10·39	8·60	8·36
16	11·47	7·23	6·34	6·10	6·99	7·32	6·80	13·12	8·93	10·42	10·05	12·17	10·94	9·22	8·87
17	11·99	7·69	6·77	6·63	7·49	7·90	7·30	13·82	9·46	11·17	10·63	13·06	11·63	9·80	9·47
18	12·48	8·05	7·13	6·98	7·85	8·23	7·65	14·42	9·89	11·59	11·21	13·64	12·15	10·22	9·90
19	12·97	8·42	7·58	7·49	8·32	8·61	8·08	15·01	10·41	12·05	11·70	14·24	12·68	10·49	10·38
20	13·60	8·99	8·05	7·98	9·00	9·07	8·62	15·88	11·07	12·68	12·54	14·99	13·43	10·89	11·03
21	13·97	9·39	8·53	8·56	9·60	9·65	9·15	16·44	11·56	13·24	13·01	15·61	13·97	11·45	11·56
22	14·51	9·96	9·00	8·99	10·29	10·25	9·70	17·12	12·29	13·89	13·54	16·26	14·62	12·18	12·16
23	15·14	10·48	9·53	9·63	11·03	10·84	10·30	17·90	12·92	14·51	14·32	17·05	15·34	12·73	12·82
24	15·52	10·90	9·96	10·12	11·50	11·23	10·74	18·49	13·44	15·10	14·96	17·67	15·93	13·12	13·34
25	15·96	11·24	10·36	10·58	11·96	11·65	11·16	19·01	13·94	15·54	15·40	18·21	16·42	13·59	13·79
26	16·42	11·73	10·79	10·96	12·56	12·10	11·63	19·76	14·54	16·20	16·18	18·88	17·11	14·10	14·37
27	17·15	12·49	11·28	11·48	12·98	12·63	12·17	20·61	15·23	16·80	16·90	19·56	17·82	14·77	15·00
28	17·76	13·23	11·91	12·26	13·67	13·22	12·86	21·59	15·99	17·64	17·67	20·29	18·64	15·36	15·75
29	18·44	14·06	12·72	13·00	14·46	13·81	13·61	22·46	16·78	18·48	18·55	21·10	19·47	16·02	16·54
30	18·85	14·50	13·45	13·66	15·14	14·44	14·24	23·18	17·75	19·27	19·45	21·97	20·32	16·65	17·28
31	19·55	14·98	13·91	14·25	15·69	14·91	14·75	23·81	18·35	19·83	20·07	22·56	20·92	17·01	17·84
32	20·32	15·65	14·54	14·71	16·27	15·26	15·29	24·80	19·22	20·44	20·85	23·49	21·76	17·48	18·53
33	20·97	16·40	15·25	15·24	16·93	15·78	15·92	25·74	20·04	21·10	21·75	24·46	22·62	18·00	19·27
34	21·65	16·93	15·93	15·90	17·55	16·49	16·56	26·54	20·88	21·82	22·48	25·31	23·41	18·60	19·99
35	22·51	17·71	16·53	16·56	18·34	17·31	17·29	27·47	21·72	22·93	23·46	26·26	24·37	19·38	20·83
36	23·15	18·04	16·98	17·09	18·81	17·82	17·75	28·31	22·31	23·59	24·30	26·82	25·07	19·80	21·41
37	23·88	18·59	17·51	17·59	19·27	18·29	18·25	29·20	22·96	24·21	24·98	27·50	25·77	20·30	22·01
38	24·41	19·05	18·12	18·19	19·91	18·96	18·85	30·26	23·79	25·09	25·78	28·26	26·64	21·08	22·75
39	25·33	19·57	18·66	18·86	20·43	19·47	19·40	31·24	24·54	25·84	26·68	28·90	27·44	21·81	23·42
40	26·72	20·22	19·17	19·29	20·91	20·00	19·92	32·26	25·36	26·57	27·51	29·51	28·24	22·47	24·08
41	27·41	20·82	19·84	20·08	21·60	20·84	20·64	33·20	26·08	27·55	28·31	30·23	29·07	23·42	24·86
42	28·31	21·29	20·43	20·76	22·23	21·49	21·24	34·06	26·88	28·51	29·12	31·16	29·95	24·35	25·60
43	29·34	21·78	21·05	21·47	22·92	22·34	21·91	35·00	27·61	29·70	29·88	32·03	30·84	25·61	26·38
44	30·46	22·51	21·87	22·28	23·88	23·18	22·74	36·35	28·74	31·02	30·98	33·16	32·05	26·62	27·40
45	31·44	23·09	22·48	22·83	24·47	23·82	23·34	37·66	29·61	32·07	31·89	34·05	33·06	27·68	28·20
46	32·38	23·71	23·05	23·50	25·05	24·43	23·95	38·71	30·34	32·95	32·89	34·91	33·96	28·21	28·96
47	33·53	24·45	23·49	23·96	25·53	25·14	24·51	40·04	31·17	33·90	33·75	35·66	34·90	29·45	29·71
48	34·40	25·01	24·12	24·64	26·10	25·75	25·12	41·13	32·01	34·92	34·61	36·53	35·84	30·43	30·48
49	35·51	25·67	24·73	25·15	26·54	26·46	25·71	42·20	32·74	35·85	35·37	37·39	36·71	31·42	31·21
50	36·60	26·08	25·14	25·54	26·98	26·78	26·10	43·30	33·47	36·83	36·19	38·25	37·61	32·28	31·86
51	37·35	26·55	25·56	25·91	27·42	27·34	26·56	44·23	34·11	37·78	37·05	39·11	38·46	33·11	32·51
52	38·30	27·14	26·01	26·39	28·05	27·95	27·11	45·33	34·87	38·81	37·78	40·06	39·37	33·90	33·24

TABLE III.—SHOWING FOR EACH DISTRICT, DURING THE THIRTEEN YEARS 1878–90, THE MEAN AGGREGATE VALUES FOR ACCUMULATED HEAT ABOVE 42° F. FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Day Degrees above 42° Fahrenheit.														
1	7	6	7	9	11	12	9	10	10	17	15	21	15	25	12
2	13	13	12	14	18	19	15	18	16	29	25	37	25	41	20
3	22	24	21	20	28	28	24	30	26	45	41	59	40	62	32
4	26	28	25	26	34	37	30	36	31	59	50	76	50	80	40
5	33	36	33	35	44	50	40	46	41	75	63	97	64	102	52
6	39	43	39	42	53	60	47	55	48	91	74	116	77	122	62
7	43	50	48	53	65	75	58	65	58	110	88	137	92	146	73
8	52	64	61	67	81	90	73	75	69	128	104	159	107	168	90
9	59	77	71	80	96	105	86	87	80	147	121	181	123	188	105
10	67	92	89	101	117	128	105	101	95	169	140	207	142	215	124
11	77	108	107	125	141	151	126	117	112	192	160	232	163	241	145
12	82	119	119	146	162	174	144	131	127	215	179	257	182	264	163
13	94	137	137	171	190	203	168	149	147	242	201	287	205	295	187
14	112	163	161	203	226	241	199	177	176	274	231	322	236	330	218
15	130	187	183	234	258	275	227	206	204	309	265	360	269	367	248
16	153	217	211	272	296	316	262	239	236	348	300	401	305	410	284
17	178	249	243	315	341	362	302	273	273	391	339	446	344	458	323
18	209	292	283	369	397	419	352	318	319	440	387	498	392	514	372
19	244	339	329	428	459	483	408	369	371	500	440	558	448	578	428
20	284	389	383	495	527	558	470	425	432	568	496	623	509	652	490
21	338	457	449	575	607	647	547	496	508	650	568	702	585	737	566
22	386	521	518	661	688	739	625	564	582	734	639	782	660	826	643
23	435	587	592	753	778	837	709	637	663	825	715	869	742	919	726
24	493	669	679	847	874	939	802	721	754	923	803	965	833	1021	818
25	565	761	773	951	981	1052	904	820	859	1031	905	1074	938	1130	921
26	648	868	886	1080	1108	1184	1025	929	974	1150	1013	1190	1051	1251	1038
27	729	972	1001	1205	1231	1312	1144	1035	1087	1270	1122	1306	1164	1376	1154
28	808	1073	1114	1329	1348	1439	1261	1135	1195	1383	1222	1414	1270	1498	1266
29	886	1174	1227	1456	1472	1573	1380	1238	1309	1506	1324	1529	1381	1626	1381
30	969	1275	1337	1579	1593	1703	1497	1344	1422	1628	1429	1647	1494	1755	1496
31	1054	1381	1454	1710	1719	1840	1621	1451	1540	1753	1539	1767	1610	1890	1616
32	1140	1487	1569	1857	1843	1976	1742	1559	1657	1877	1649	1885	1725	2025	1734
33	1225	1585	1680	1960	1961	2106	1858	1661	1769	1996	1755	1998	1836	2157	1847
34	1309	1687	1788	2081	2077	2237	1974	1840	1881	2118	1860	2112	1962	2289	1968
35	1382	1776	1889	2194	2183	2359	2080	1855	1982	2230	1956	2217	2048	2415	2064
36	1460	1867	1990	2306	2288	2477	2186	1948	2086	2539	2052	2323	2150	2538	2168
37	1534	1952	2084	2413	2389	2591	2286	2037	2183	2446	2143	2421	2246	2660	2266
38	1596	2025	2166	2509	2480	2695	2375	2114	2271	2546	2223	2509	2333	2776	2354
39	1649	2087	2235	2585	2552	2782	2448	2181	2345	2630	2291	2589	2407	2877	2428
40	1693	2142	2295	2651	2615	2859	2512	2239	2409	2706	2352	2660	2473	2970	2493
41	1735	2190	2345	2708	2668	2923	2567	2290	2463	2771	2402	2718	2529	3051	2548
42	1771	2230	2390	2756	2714	2979	2614	2337	2509	2829	2450	2775	2580	3127	2597
43	1799	2261	2424	2796	2749	3024	2651	2371	2545	2879	2487	2820	2620	3191	2636
44	1820	2285	2455	2831	2782	3066	2684	2401	2579	2925	2519	2861	2657	3253	2671
45	1840	2308	2479	2859	2809	3100	2711	2429	2606	2965	2550	2901	2690	3309	2701
46	1855	2324	2497	2878	2829	3127	2731	2447	2629	3000	2574	2935	2717	3355	2724
47	1868	2338	2512	2897	2848	3153	2750	2465	2647	3031	2593	2963	2740	3400	2745
48	1877	2349	2525	2911	2862	3171	2764	2480	2661	3055	2610	2986	2758	3434	2761
49	1882	2355	2531	2918	2871	3183	2772	2489	2670	3072	2621	3003	2771	3460	2772
50	1887	2360	2537	2926	2879	3196	2780	2497	2679	3089	2630	3020	2783	3485	2782
51	1893	2365	2542	2932	2887	3208	2787	2505	2687	3104	2640	3039	2795	3510	2791
52	1899	2371	2547	2936	2892	3217	2793	2513	2694	3122	2651	3053	2807	3534	2800

TABLE IV.—SHOWING FOR EACH DISTRICT, DURING THE THIRTEEN YEARS 1878–90, THE MEAN AGGREGATE VALUES FOR ACCUMULATED HEAT BELOW 42° F. FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.	
	Day Degrees below 42° Fahrenheit.													
1	32	40	35	41	40	26	36	28	27	15	22	14	21	7	29
2	69	83	77	91	90	69	82	62	63	42	50	37	51	20	67
3	102	122	113	135	131	105	121	90	93	65	75	58	76	31	99
4	137	168	158	181	180	142	166	127	132	91	110	82	108	45	137
5	165	201	191	218	214	170	199	150	158	109	132	97	129	51	164
6	198	237	225	253	247	196	232	176	186	126	155	113	151	58	192
7	233	275	254	285	277	220	262	203	210	143	177	127	172	64	217
8	264	309	285	320	311	247	294	228	236	164	199	144	194	73	244
9	298	347	319	358	347	279	330	258	265	188	222	159	218	83	274
10	336	379	348	388	376	302	359	281	288	207	242	177	239	91	299
11	369	416	381	425	411	332	393	309	316	228	266	195	263	102	328
12	403	450	410	454	440	354	422	333	339	244	289	213	284	107	353
13	432	478	433	480	466	374	446	354	359	260	308	229	302	111	374
14	456	503	453	503	490	387	467	374	377	272	326	243	318	114	393
15	476	521	469	519	507	399	483	387	389	280	336	252	329	116	406
16	491	534	480	530	518	405	493	395	398	285	343	256	335	116	414
17	505	547	489	539	529	410	503	404	404	289	349	261	341	116	422
18	514	555	497	547	538	414	510	409	408	292	354	263	345	116	428
19	524	562	502	553	544	417	516	414	411	293	358	265	348	116	432
20	529	566	503	555	546	417	517	416	412	293	359	265	349	116	433
21	532	568	504	556	547	417	518	416	412	293	359	265	349	116	434
22	534	569	504	556	547	417	519	416	412	293	359	265	349	116	434
23	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
24	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
25	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
26	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
27	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
28	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
29	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
30	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
31	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
32	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
33	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
34	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
35	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
36	535	569	504	556	547	417	519	416	412	293	359	265	349	116	434
37	535	569	504	556	548	417	519	416	412	293	359	265	349	116	434
38	535	570	504	556	549	417	519	417	412	293	359	265	349	116	434
39	537	571	504	557	550	418	520	417	412	294	359	265	349	116	435
40	540	574	507	560	554	420	523	418	414	295	360	266	351	116	437
41	547	581	511	566	563	425	529	424	416	297	363	269	354	116	442
42	551	584	513	570	569	428	533	425	416	298	364	270	355	116	444
43	565	600	522	579	579	434	543	436	423	301	373	276	364	116	453
44	578	614	530	587	589	439	552	442	428	303	378	280	366	116	459
45	593	631	542	602	605	448	566	454	437	306	388	287	374	116	470
46	610	655	561	624	629	464	587	471	451	315	401	299	387	117	487
47	633	680	581	643	651	477	606	488	466	323	417	310	401	118	504
48	658	712	606	672	681	500	634	507	483	336	435	325	417	122	526
49	697	753	645	717	727	536	676	540	514	360	468	350	446	130	561
50	729	796	686	759	772	568	716	572	546	381	499	376	475	138	596
51	766	841	727	804	815	603	758	605	581	402	527	401	503	146	631
52	802	887	767	850	861	639	801	635	614	423	554	426	531	153	666

TABLE V.—SHOWING FOR EACH DISTRICT, DURING THE TEN YEARS 1881–90, THE MEAN AGGREGATE NUMBERS OF HOURS OF BRIGHT SUNSHINE FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Numbers of Hours of Bright Sunshine.														
1	5	10	6	10	9	9	9	6	7	11	10	13	9	17	9
2	11	18	12	19	16	18	17	13	13	21	18	24	18	32	18
3	17	31	20	28	25	26	26	22	22	33	28	36	28	47	27
4	22	45	31	44	37	38	39	30	33	43	38	49	39	63	39
5	31	59	41	59	49	49	51	39	41	58	50	62	50	81	51
6	42	77	55	77	65	63	67	56	58	75	66	81	67	101	67
7	57	93	70	93	79	78	83	69	72	92	82	98	83	122	83
8	74	112	84	108	94	94	98	84	88	112	99	117	100	144	99
9	95	131	103	129	113	113	118	100	108	134	112	135	118	172	118
10	114	153	124	152	135	135	140	122	127	160	131	162	140	198	140
11	136	179	150	181	161	162	167	145	151	191	154	189	166	240	167
12	158	207	175	208	187	191	194	170	174	224	179	219	193	273	194
13	184	231	199	238	211	219	220	198	199	255	206	251	222	311	221
14	219	266	235	281	248	258	258	239	238	297	242	295	262	357	260
15	252	294	257	312	274	285	284	274	266	334	275	333	296	397	290
16	283	321	279	342	300	316	312	303	293	369	304	365	327	436	320
17	319	361	309	377	333	350	346	337	326	410	339	403	363	480	355
18	356	396	348	420	373	394	386	377	367	452	377	447	404	533	395
19	393	437	384	465	413	437	427	418	406	501	417	488	446	596	437
20	432	480	428	510	454	482	471	460	451	550	458	533	490	653	481
21	475	530	475	564	498	529	519	512	501	597	506	583	540	705	530
22	509	577	516	619	544	580	567	557	548	645	551	628	586	759	577
23	549	619	552	665	582	622	608	599	591	690	586	666	626	805	617
24	588	659	590	712	626	670	651	644	638	748	626	714	674	866	663
25	629	705	628	750	664	710	691	691	679	797	671	760	720	920	706
26	664	754	668	804	710	763	740	732	722	848	701	798	760	978	750
27	698	787	709	855	757	812	784	773	765	897	733	834	800	1033	792
28	730	827	749	899	795	854	825	813	805	941	764	872	839	1088	832
29	758	864	784	943	832	893	863	851	841	981	795	907	875	1131	869
30	788	901	818	985	869	935	902	887	875	1024	825	943	911	1181	907
31	812	940	853	1024	908	978	941	926	916	1070	856	978	949	1245	945
32	835	972	889	1066	947	1023	979	962	951	1116	883	1014	985	1307	982
33	862	1003	920	1106	987	1065	1016	995	986	1158	913	1050	1020	1358	1018
34	890	1037	950	1143	1022	1105	1051	1028	1019	1206	942	1087	1056	1410	1054
35	915	1067	973	1177	1051	1139	1081	1053	1042	1241	963	1114	1083	1449	1082
36	944	1101	1001	1208	1079	1171	1112	1085	1071	1275	987	1145	1113	1488	1113
37	970	1128	1030	1246	1113	1209	1145	1116	1104	1316	1015	1179	1146	1540	1146
38	992	1154	1055	1281	1143	1244	1175	1142	1134	1351	1040	1209	1175	1586	1175
39	1013	1178	1078	1310	1170	1273	1202	1167	1159	1379	1060	1234	1200	1619	1201
40	1032	1200	1101	1334	1192	1296	1225	1189	1179	1406	1079	1258	1222	1646	1224
41	1052	1221	1123	1360	1217	1325	1249	1210	1200	1434	1099	1284	1245	1680	1247
42	1068	1237	1141	1384	1240	1348	1270	1225	1215	1457	1115	1302	1263	1709	1267
43	1087	1255	1153	1402	1255	1364	1286	1242	1229	1473	1134	1320	1280	1730	1283
44	1098	1267	1165	1419	1270	1380	1300	1255	1242	1490	1149	1338	1295	1749	1298
45	1111	1282	1178	1438	1282	1393	1315	1266	1253	1504	1162	1353	1308	1765	1312
46	1119	1292	1187	1452	1295	1406	1326	1276	1263	1518	1177	1369	1321	1784	1324
47	1126	1304	1201	1464	1307	1417	1339	1286	1274	1530	1190	1384	1333	1797	1336
48	1133	1312	1209	1474	1317	1426	1348	1294	1282	1543	1198	1394	1342	1811	1345
49	1141	1323	1218	1483	1325	1436	1357	1304	1290	1556	1210	1405	1353	1824	1355
50	1144	1331	1227	1494	1334	1447	1367	1311	1295	1567	1219	1418	1362	1839	1365
51	1148	1336	1235	1503	1341	1455	1374	1317	1302	1576	1225	1428	1370	1850	1372
52	1153	1345	1240	1509	1347	1462	1381	1322	1307	1586	1232	1438	1377	1862	1379

TABLE VI.—SHOWING FOR EACH DISTRICT, DURING THE TEN YEARS 1881–90, THE MEAN PERCENTAGES OF THE POSSIBLE AMOUNT OF BRIGHT SUNSHINE FROM THE BEGINNING OF THE YEAR TO THE END OF EACH WEEK IN THE YEAR.

Numbers of Weeks.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.	
	Percentages of Possible Duration.													
1	10	20	12	18	16	17	17	12	13	21	20	25	18	30	18
2	12	18	12	17	15	16	16	13	13	19	17	22	17	27	17
3	12	22	13	17	16	15	17	14	14	19	17	22	17	27	17
4	11	22	14	20	17	17	18	14	15	19	18	22	18	26	18
5	12	23	15	21	17	17	19	14	15	20	18	22	18	26	19
6	13	24	16	22	18	18	20	17	17	21	19	23	19	27	20
7	15	24	17	22	19	18	20	17	17	22	20	23	20	28	20
8	16	25	18	22	19	19	21	18	18	22	21	24	21	28	21
9	18	25	19	23	20	20	21	18	19	23	20	24	21	29	21
10	19	25	20	24	21	21	22	19	20	24	21	25	22	30	22
11	20	26	21	25	22	22	23	21	21	26	22	26	23	32	23
12	21	27	22	26	23	23	24	22	22	27	23	27	24	33	24
13	22	27	22	26	23	24	24	22	23	27	23	28	25	34	25
14	23	28	24	28	25	26	26	25	25	30	25	30	27	35	27
15	24	28	24	29	25	26	26	25	25	31	26	31	28	36	27
16	25	28	24	29	25	27	27	26	25	31	26	31	28	36	28
17	26	29	24	29	26	27	27	27	26	32	27	31	29	37	28
18	26	29	25	30	27	28	28	27	27	32	27	32	29	38	29
19	27	30	26	31	28	29	29	28	27	33	28	33	30	39	30
20	27	30	27	32	29	30	30	29	28	34	29	33	31	40	31
21	28	31	28	33	29	31	30	30	29	35	29	34	31	41	31
22	28	32	28	34	30	32	31	30	30	35	30	34	32	42	32
23	28	32	28	34	30	32	31	31	30	36	30	34	32	42	32
24	29	32	28	35	30	33	32	31	31	36	30	35	33	42	33
25	29	32	29	35	31	33	32	32	31	37	31	35	33	42	33
26	29	33	29	35	31	33	32	32	31	37	31	35	33	43	33
27	29	32	30	36	31	34	33	32	32	38	30	35	33	43	33
28	29	33	30	36	32	34	33	32	32	37	30	35	33	44	33
29	28	32	30	36	32	34	33	32	32	38	30	34	33	43	33
30	28	32	30	36	32	34	33	32	32	38	30	34	33	43	33
31	28	33	30	36	32	35	33	32	32	38	30	34	33	44	33
32	28	32	30	36	32	35	33	32	32	38	30	34	33	45	33
33	28	32	30	36	32	35	33	32	32	38	30	34	33	45	33
34	28	32	30	36	32	35	33	33	32	39	30	35	34	45	34
35	27	32	30	36	33	35	33	32	32	38	30	34	33	45	33
36	28	32	30	36	32	35	33	32	32	38	29	34	33	45	33
37	28	32	30	37	32	36	33	32	32	39	29	34	33	45	33
38	28	32	30	36	33	36	33	32	32	39	29	34	33	46	33
39	28	32	30	37	33	36	34	32	32	39	29	34	33	45	34
40	28	32	30	36	32	35	33	32	32	38	29	34	33	45	33
41	28	32	30	36	33	36	33	32	32	39	29	34	33	45	33
42	27	32	30	36	33	35	33	32	31	38	29	34	33	45	33
43	27	32	29	36	32	35	33	32	31	38	29	34	33	45	33
44	27	32	29	36	32	35	33	32	31	38	29	34	33	44	33
45	27	32	29	36	32	35	33	31	31	37	29	34	32	44	33
46	27	31	29	36	32	35	33	31	31	37	29	34	32	44	33
47	27	31	29	36	32	34	32	31	31	37	29	34	32	44	32
48	27	31	29	35	31	34	32	31	30	37	29	33	32	43	32
49	27	31	29	35	31	34	32	31	30	37	29	33	32	43	32
50	27	31	29	35	31	34	32	31	30	37	28	33	32	43	32
51	27	31	28	35	31	33	32	30	30	36	28	33	31	43	32
52	26	31	28	34	31	33	31	30	30	36	28	33	31	43	31

WEEKLY WEATHER REPORT, 1890.

VOL. VII. APPENDIX IV.] [*Price 2d.*

Third Series.

TABLE I.—SHOWING IN DEGREES FAHRENHEIT FOR EACH DISTRICT, AND FOR THE THIRTEEN YEARS 1878–90, THE MEAN TEMPERATURE OF THE AIR FOR EACH WEEK IN THE YEAR.

NUMBERS OF WEEKS.	Principal Wheat-producing Districts.						Principal Grazing, &c. Districts.						Channel Islands.	Means for the British Islands generally.
	0. Scotland, N.	1. Scotland, E.	2. England, N.E.	3. England, E.	4. Midland Counties.	5. England, S.	Means for Wheat-producing Districts.	6. Scotland, W.	7. England, N.W.	8. England, S.W.	9. Ireland, N.	10. Ireland, S.	Means for Grazing, &c. Districts.		
	Mean Weekly Values.														
1	38·9	37·6	38·2	37·5	37·7	39·6	38·1	39·4	39·4	42·2	40·8	43·0	41·0	44·8	39·6
2	37·8	36·7	36·8	35·5	35·6	37·1	36·3	38·4	37·9	40·0	39·6	41·4	39·5	42·6	37·9
3	39·0	38·4	38·2	36·8	37·6	38·4	37·9	39·7	39·3	41·2	40·6	42·2	40·6	43·4	39·3
4	37·7	36·3	36·4	36·5	36·5	38·0	36·7	37·8	37·6	40·2	38·7	40·8	39·0	42·6	37·9
5	39·1	38·9	38·7	38·4	38·8	40·1	39·0	40·3	39·7	41·9	40·8	42·6	41·1	44·3	40·1
6	38·3	38·1	38·2	38·4	38·9	39·8	38·7	39·3	39·3	41·7	40·4	42·5	40·6	43·6	39·7
7	38·1	38·3	39·2	39·1	39·7	40·6	39·4	39·8	40·0	42·2	40·9	42·8	41·1	44·7	40·3
8	38·8	38·8	39·4	38·9	39·1	40·1	39·3	40·1	39·9	41·5	41·5	42·5	41·1	44·0	40·2
9	38·2	38·1	38·5	38·1	38·7	39·5	38·6	39·3	39·2	41·1	41·0	43·0	40·7	43·5	39·7
10	37·7	38·9	39·9	40·5	40·6	41·5	40·3	40·5	40·6	42·3	41·8	43·3	41·7	44·6	41·0
11	38·7	39·1	39·7	39·7	40·1	41·0	39·9	40·3	40·4	41·9	41·3	43·1	41·4	44·1	40·7
12	38·2	39·0	39·8	40·6	40·5	41·8	40·3	40·4	40·7	42·6	41·2	42·8	41·5	44·6	40·9
13	39·3	40·3	41·1	41·8	42·0	43·1	41·7	41·4	41·8	43·7	42·3	43·9	42·6	45·7	42·2
14	41·1	41·9	42·2	43·3	43·6	44·7	43·1	42·8	43·3	44·6	43·4	44·6	43·7	46·4	43·4
15	41·6	42·6	42·6	43·7	44·0	45·0	43·6	44·0	44·1	45·3	44·7	45·8	44·8	47·0	44·2
16	43·0	43·9	44·4	45·4	45·4	46·7	45·2	45·2	45·2	46·4	45·8	46·8	45·9	48·0	45·6
17	43·1	44·3	44·9	46·4	46·5	47·6	45·9	45·3	46·1	47·4	46·3	47·4	46·5	48·9	46·2
18	44·8	46·4	46·3	48·0	48·1	49·3	47·6	47·3	47·6	48·5	47·9	49·0	48·1	49·9	47·9
19	45·4	47·4	47·6	49·2	49·6	50·5	48·9	48·4	48·8	50·3	48·7	50·1	49·3	51·2	49·1
20	46·4	48·3	49·3	51·0	51·2	52·6	50·5	49·6	50·4	51·6	49·7	51·2	50·5	52·5	50·5
21	49·1	51·3	51·3	53·3	53·3	54·6	52·8	52·3	52·9	53·7	52·2	53·4	52·9	54·1	52·9
22	47·9	50·9	51·8	54·3	53·6	55·2	53·2	51·6	52·6	54·0	52·2	53·3	52·7	54·8	53·0
23	48·7	51·5	52·7	54·9	54·7	56·0	54·0	52·4	53·5	55·0	52·8	54·4	53·6	55·4	53·8
24	50·3	53·7	54·4	55·5	55·8	56·6	55·2	54·1	55·1	56·0	54·6	55·8	55·1	56·5	55·2
25	52·3	55·2	55·3	56·9	57·2	58·1	56·5	56·2	56·9	57·5	56·5	57·5	56·9	57·5	56·7
26	54·0	57·3	58·1	60·4	60·2	60·9	59·4	57·5	58·4	59·0	57·4	58·6	58·2	59·4	58·8
27	53·5	56·8	58·5	59·9	59·6	60·2	59·0	57·2	58·1	59·0	57·6	58·6	58·1	59·7	58·6
28	53·2	56·4	58·1	59·7	58·7	60·1	58·6	56·3	57·4	58·2	56·2	57·4	57·1	59·5	57·9
29	53·3	56·5	58·1	60·2	59·7	61·1	59·1	56·7	57·8	59·5	56·6	58·4	57·8	60·2	58·5
30	53·8	56·4	57·7	59·6	59·3	60·7	58·7	57·1	58·2	59·5	56·9	58·8	58·1	60·4	58·4
31	54·1	57·1	58·7	60·6	60·1	61·6	59·6	57·4	58·8	59·9	57·8	59·2	58·6	61·3	59·1
32	54·3	57·2	58·4	60·3	59·6	61·4	59·4	57·3	58·6	59·7	57·6	58·9	58·4	61·3	58·9
33	53·8	56·0	57·8	59·5	58·9	60·6	58·6	56·6	58·0	59·1	57·1	58·1	57·8	60·8	58·2
34	54·0	56·6	57·4	59·3	58·5	60·7	58·5	56·6	58·1	59·5	57·0	58·3	57·9	60·9	58·2
35	52·5	54·7	56·4	58·1	57·2	59·5	57·2	55·1	56·4	58·0	55·5	57·0	56·4	60·1	56·8
36	53·1	54·9	56·5	58·0	57·0	58·8	57·0	55·4	56·8	57·6	55·7	57·1	56·5	59·6	56·8
37	52·5	54·1	55·4	57·2	56·2	58·3	56·2	54·5	55·9	57·2	54·9	56·0	55·7	59·3	56·0
38	50·9	52·3	53·6	55·6	54·8	56·9	54·6	52·9	54·6	56·3	53·3	54·7	54·4	58·7	54·5
39	49·2	50·5	51·9	52·7	52·1	54·3	52·3	51·5	52·5	54·0	51·9	53·4	52·7	56·3	52·5
40	47·8	49·4	50·3	51·1	50·3	52·6	50·7	50·0	50·9	52·6	50·5	52·0	51·2	55·3	51·0
41	46·6	47·6	48·5	49·3	48·1	50·3	48·8	48·3	49·2	50·7	48·4	49·8	49·3	53·7	49·1
42	46·5	47·1	47·8	47·9	47·2	49·3	47·9	48·3	48·4	50·2	48·5	49·9	49·1	52·8	48·5
43	43·9	43·9	45·6	46·2	45·4	47·5	45·7	45·3	46·3	48·4	45·8	47·1	46·6	51·2	46·2
44	43·1	43·3	45·0	45·6	45·0	47·1	45·2	45·1	45·9	48·2	45·7	47·1	46·4	50·7	45·8
45	42·7	42·8	43·8	43·9	43·7	45·5	43·9	44·3	44·9	47·0	44·9	46·4	45·5	50·1	44·7
46	41·8	41·0	41·9	41·9	41·7	43·6	42·0	42·4	43·1	45·5	43·5	45·2	43·9	48·4	43·0
47	40·6	40·1	41·3	41·9	41·4	43·8	41·7	42·0	42·5	45·2	42·6	44·4	43·3	48·3	42·5
48	39·7	39·1	40·0	39·5	39·6	41·2	39·9	41·2	41·5	43·6	41·8	43·3	42·3	46·3	41·1
49	37·5	37·2	37·4	36·8	36·8	38·8	37·4	38·8	39·1	41·3	39·0	41·0	39·8	44·5	38·6
50	38·4	36·6	37·0	37·2	36·9	39·3	37·4	38·7	38·7	41·5	39·3	40·8	39·8	44·6	38·6
51	37·8	36·6	37·0	36·6	36·9	38·6	37·1	38·5	38·3	41·3	39·5	40·6	39·6	44·6	38·4
52	38·1	36·7	37·0	36·4	36·5	38·6	37·0	39·0	38·4	41·2	39·6	41·3	39·9	44·2	38·5